

Oct. 13, 1986

# Chemical Marketing Reporter

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## CMR MARKET INDEX

CHEMICAL MARKETING REPORTER's market index of chemicals and related materials (100=1974 average), based on 97 key commercial chemicals, appears alongside with data for two weeks ago, last month and last year.

Oct. 10, 1986	151.23
Sept. 28, 1986	152.04
Sept. 12, 1986	152.58
Oct. 11, 1985	153.21

Chemical Prices Start on Page 40

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## CHEMICAL MARKETING CUES

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PVAc: Margins are squeezed by the rising cost of material.  
ALUMINUM SULFATE: Producers post \$8.00 increase.

# Chemical Marketing Reporter

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## NEWSPAPER

### INSIDE CMR

**CLEAN WATER:** An \$18 billion extension of the 1984 Clean Water Act goes to the President. The administration objects to the funding total. **Page 3**

**SULFUR SHIFT:** Continued drawdown of Canadian sulfur stocks will alter the fundamentals of the business. The question is: how soon? **Page 5**

**QAF OUTLOOK:** The specialty chemicals and roofing materials maker expects to continue growth. Mr. Heyman rules out stock repurchase. **Page 9**

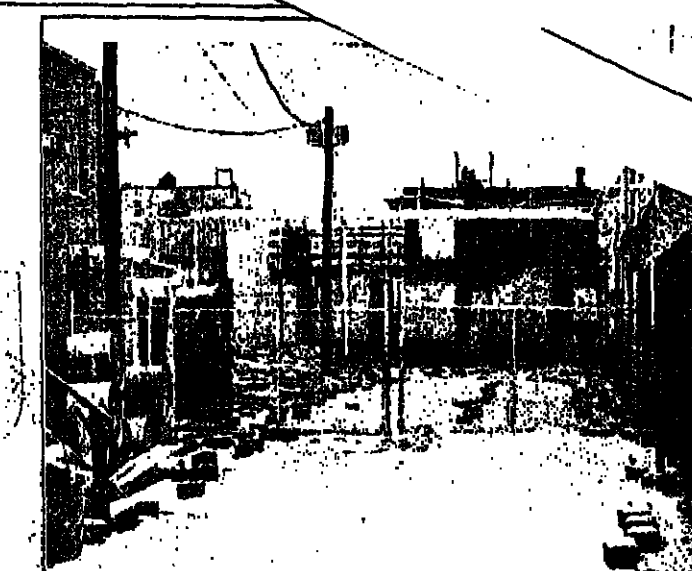
**HENLEY SELLS:** The group sells 49 percent interest in the Green River, Wyo., soda ash operations of its General Chemical Corporation. **Page 3**

**CHEMICAL TRADE:** SOCCA's Ronald Lang says the upcoming round of trade talks will be vital for the chemical industry. **Page 7**

**USX CHEMICALS:** The company follows up on announced intention by divesting chemicals via a stock sale and a leveraged buyout. **Page 9**

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Reagan Signs Superfund 3

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## Reagan Signs Superfund Bill

President Reagan, disregarding advisers who said the superfund program is too costly, signed the \$8.5 billion reauthorization bill Friday, extending the toxic waste cleanup program for five years.

Chemical Manufacturers Association, which strongly urged the White House to accept the controversial program, called the bill "a significant congressional achievement that not only strengthens the cleanup program, but provides Environmental Protection Agency with a stable source of funding."

Sen. Robert Dole (R-Kan.) took the Senate floor to tell colleagues he had been informed that President Reagan signed the legislation aboard Air Force I Friday morning as he flew to campaign for Republican congressional candidates.

President Reagan announced he signed the super-

fund bill as he opened a rally at Grand Forks, N.D., for Sen. Mark Andrews (R-N.D.) who is running for re-election.

Explaining his action, President Reagan said he had concerns about the bill's financing, but the health and safety of Americans are his highest priority.

As late as Friday morning, White House spokesman Albert Brashear had said, "We'll have to wait and see" whether the President would sign or veto the bill.

Some advisers in the Treasury Department had repeatedly urged a veto, saying they opposed the taxes

Continued on Page 12

**SUPERFUND SITE:** Without the extension of the law, the superfund program, which ended up struggling this year under emergency funding measures, would have been shut down.

## Henley Group Sells Stake In Soda Ash Operations

Henley Group Inc. has sold a 49 percent interest in the Green River, Wyo., soda ash operations of its General Chemical Corporation subsidiary to ACI International, an Australian glass packaging producer, for \$100 million.

As part of the transaction announced last week, Henley plans to pour most, if not all, of the proceeds from the sale back into ACI by purchasing a 10 percent stake in the Melbourne-based firm.

The Green River operations consist of a trona mine and processing plant, with an annual capacity of 2.2 million short tons of chemical grade ash. ACI will take some of the output for its international glass operations.

In addition to glass, soda ash is used in the production of chemicals, detergents, paper and other products.

Henley said the deal with ACI will not affect its synthetic soda ash operation at Amherstburg, Ontario. Earlier this year, Henley closed its synthetic soda ash operation in Syracuse, N.Y., which had an annual capacity of 700,000 tons.

Richard R. Russell, president of General Chemical, said last week that the transaction with ACI "shows people we're going to stay" in the soda ash business.

Allied Corporation, now Allied-Signal, had been looking for a buyer for the Green River operation, and speculation about a sale continued after the merger with Signal and the subsequent formation of Henley Group.

R. Martin Wright, product sales manager

for soda ash at FMC Corporation, said last week that the deal between Henley and ACI should have a positive effect on the US soda ash industry.

Up until now, ACI has not been a major purchaser of US soda ash, but Mr. Wright expects the Green River plant to become ACI's primary source of the material. That could mean a net increase in demand for US soda ash of up to 250,000 tons a year, according to Mr. Wright.

US producers are running fairly close to capacity, but prices are still depressed, so a further tightening in the market could help profitability for the industry.

A July price increase of \$4 per ton for non-contract customers apparently succeeded, as did a September increase for bagged shipments. Producers are now in contract negotiations with their large customers, and the success of the recent increases "definitely sets a tone" for the discussions now in progress, according to Mr. Russell.

The Green River operations started showing a profit in the second half, but will still be in the red for the year as a whole, Mr. Russell said last week, but the outlook is "very strong for next year," he added.

"We did an awful lot to make ourselves the low-cost producer," Mr. Russell said. He pointed, for example, to labor concessions on wages, a renegotiated coal contract and installation of a new pipeline which will give the Green River operations access to cheaper gas.

## Trade Secret Provision May See Further Court Test

Warning that Occupational Safety & Health Administration may face further court action, organized labor says the revised trade secret provisions in the Federal hazard communication standard fall far short of needed improvements.

Margaret Seminario, AFL-CIO's associate director for job safety and health, says the final rule "is not going to change things very much" from the interim rule that has been in effect since last November.

The hazard communication standard originally defined a trade secret as "any confidential formula, pattern, process, device, information or compilation of information (including chemical name or other unique chemical identifier) that is used in an employer's business, and that gives the employer an advantage over competitors who do not know or use it."

OSHA modified the definition by eliminating the parenthetical phrase. The US Court of Appeals for the Third Circuit believed the parenthetical phrase gave trade secret protection to items not traditionally given such protection by state laws. Eliminating the phrase makes the definition consistent with state laws on trade secrets.

Miss Seminario points out, however, that

OSHA put the new language in the preamble to the standard rather than in the rule itself.

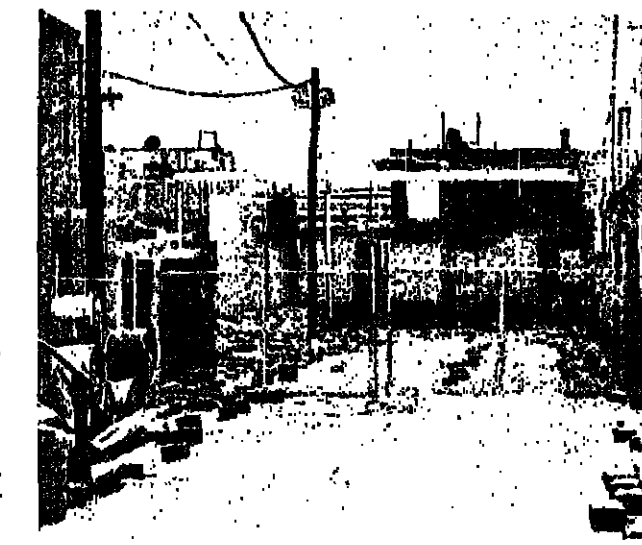
"We have yet to see what OSHA will do to enforce illegal claims of trade secrets" as a device for refusing to disclose toxic dangers, she says.

Although the interim rule has been in effect for almost one year, Miss Seminario says safety data sheets continue to be put out by manufacturers wrongly claiming trade secret protections.

She also notes that OSHA has not issued a proposal to expand the rule's coverage of workers outside the manufacturing sector, and warns, "we may have to return to court" in order to force agency action.

The OSHA hazard communication standard, issued in November 1983, was challenged by both industry and labor in the court of appeals, which upheld its preemption of state laws only regarding the manufacturing sector.

The court ordered OSHA in May 1985 to extend coverage to all other business sectors unless it could find "reasons why such application would not be feasible." It also ordered the agency to "reconsider a trade secret definition which will not include chemical identity information that is readily discoverable by reverse engineering."



## Chemical Marketing Reporter

VOLUME 230  
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OCTOBER 20, 1986

## Clean Water Bill Goes to White House

The Senate gave final congressional approval and sent to the White House Thursday an \$18 billion extension through 1994 of the Clean Water Act, designed to curb pollution of the nation's lakes and streams.

The bill, unanimously approved a day earlier by the House, was passed 96-0. The compromise measure, worked out after months of negotiations, could provoke a veto by President Reagan. The administration objects to the totals approved in the original Senate and House bills.

"It would be a sad day, a tragic day for the nation if the President vetoes this legislation," said Sen. George Mitchell (D-Maine). Earlier, Rep. Robert Roe (D-N.J.) called the bill "a major step forward in our efforts to preserve the quality of our water ... It is a sound and reasonable approach."

Rep. James Howard (D-N.J.) said the bill "will provide the basis for fighting water pollution into the 1990's" and noted that it "sets tough deadlines for industry to comply with pollution control and sets up new, innovative programs to deal with specific pollution problems."

The bill authorizes \$400 million for a new, Federal-state program to control non-point source pollution, which is believed to account for 50 percent of all pollution in the nation's waters.

Each state would be required within 18 months of enactment to prepare and submit for Environmental Protection Agency approval a management program for controlling non-point pollution, such as runoff from farm fields that have been treated with pesticides and fertilizers.

Federal grants of up to 60 percent of state implementation costs would be made available to states whose programs are approved by EPA. No state could receive more than 15 percent of Federal non-point pollution control grant funds.

In key regulatory changes, the bill extends compliance deadlines for industries to comply with national discharge limits, and requires EPA, by December 31, 1986, to promulgate final toxic pollution limits for industries producing pesticides and organic chemicals, plastics and synthetic fibers.

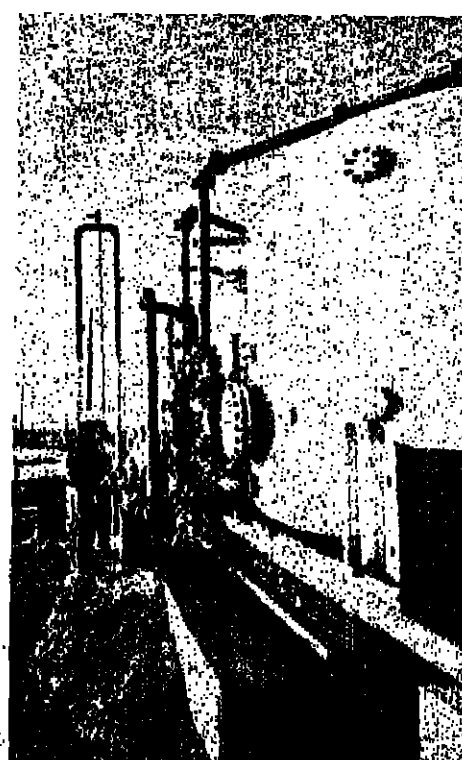
It restricts the availability of variances

from national discharge limits for industrial facilities, and prohibits, except in a few circumstances, the weakening of cleanup standards when industrial and municipal discharge permits are renewed or reassessed.

The bill also requires permits for all discharges of storm water from industrial facilities, as well as from all cities with populations over 250,000.

The bill establishes a new program for cleaning up toxic "hot spots," which are waters that will not meet water quality goals even after industrial dischargers have installed the best available cleanup technologies required under existing law.

It also requires states to identify the individual dischargers responsible for toxic pollution, and propose strategies for reducing toxic discharges from these facilities.



**WASTEWATER TREATMENT:** The chemical industry suffered a setback in newly passed legislation in that it requires to be renewed every five years.



## Butadiene Limit Mulled By Occupational Health Agency

Occupational Safety & Health Administration has published an advanced notice of proposed rulemaking calling for public comments on 1,3-butadiene, the petrochemical used to make synthetic rubber. OSHA made a preliminary determination in April that a revised agency standard for BD could prevent or reduce the risk of exposure to a sufficient extent and agreed with an Environmental Protection

Agency analysis that the chemical is a probable human carcinogen. Although OSHA is developing its own risk assessment, EPA estimated risks to workers in the monomer and polymer industries at 22 to 80 and 148 to 838 extra lifetime cancer cases, respectively, among approximately 480-740 monomer workers and 4,800-7,500 polymer workers currently exposed to BD.

OSHA says it believes that it is technologically and economically feasible to reduce workplace exposures through engineering controls, work practices, and personal protective clothing.

In 1971, OSHA adopted an eight-hour time-weighted average of 1,000 parts BD per million parts of air.

In seeking industry comment, OSHA says it is particularly interested in data on the health effects of 1,3-butadiene, permissible exposure levels, appropriate engineering controls and personal protective clothing.

The agency is also seeking information on current exposure levels, employee training, medical surveillance, costs of protective measures, environmental effects of a revised BD standard, and potential impact of a new standard on small businesses.

The US produced about 2.5 billion pounds of BD in 1985, 70 percent of which was used to make tires.

## Degussa Establishes A UK Operation

Degussa AG says it has established a new unit, Degussa Pharmaceuticals Limited, in Cambridge, England.

The new company is marketing Degussa drugs in Great Britain. The program will concentrate on products for cardiovascular and respiratory diseases as well as analgesics. The venture could see annual turnover of approximately \$12.5 million in the early nineties.

Degussa Pharmaceuticals Ltd. will be responsible for clinical trials and applications for product license of new products coming from Degussa research and development as well as other preparations which may be licensed from third parties.

## Carbide Reorganizes Chemicals, Plastics

Union Carbide Corporation President and chief executive officer Robert D. Kennedy announced that the corporation is realigning all of its Specialties and Services business units into the company's Chemicals & Plastics and Industrial Gases Business Groups.

Following this realignment, the corporation will operate with three business groups: Chemicals & Plastics, Industrial Gases and Carbon Products.

Mr. Kennedy said that the realignment further streamlines and simplifies the company's structure. He noted that this realignment followed the announcement by Mr. Helmut F. Tomfohrde III, Union Carbide vice-president and president of the Specialties and Services Business Group, to retire at the end of the year, and that Mr. Tomfohrde's plans entered into the decision to realign the business group.

Mr. Kennedy said that the Medical and Industrial Services unit, including coatings service, Linde Homecare, and specialty products, will become part of the Industrial Gases Business Group. Raymond L. Broemmelsiek, vice-president of Medical and Industrial Services, will report to John R. MacLean, Union Carbide vice-president and president, Industrial Gases.

## C.H. Kline Bought By Investment Group

C. H. Kline & Co. of Fairfield, N.J., has been bought outright by Sunwestern Investment Group, a venture capital firm based in Dallas. Kline & Co. has annual sales of around \$8 million, and about 60 percent of its outstanding shares were owned by Dr. Charles H. Kline, who founded the concern as a one-man consultancy in 1959; the balance of the stock belonged to Kline company employees.

Tom H. Delimitros, senior vice-president of Sunwestern, has been elected chairman of Kline & Co. to succeed Dr. Kline, who has become advisor to the board. Michael J. Bennett, who joined the company in March as president and chief operating officer, takes on the added position of chief executive officer.

Also continuing as officers are Edward J. Kliff, executive vice-president; Andrew A. Boccone, executive vice-president of Kline & Co. and president of its Flintech, Inc., subsidiary; and Thomas A. Galvanek, vice-president. Warren E. Staudt continues as managing director of Kline SA, a Brussels subsidiary.

Kline & Co. initially concentrated on the chemical and mineral industries, and later expanded into plastics, packaging and the graphic arts, petroleum, cosmetics, cleansers, pharmaceuticals, other consumer and institutional products and such high-technology fields as biotechnology, electronics, ceramics and other advanced materials.

## Arco and Carbide Combine on MTBE

ARCO Technology, Inc., a unit of ARCO Chemical Company, and Union Carbide Corporation have agreed to offer for license a process to produce methyl tertiary butyl ether. The process combines ARCO's catalytic MTBE unit with Union Carbide's proprietary molecular sieve methanol recovery system.

The approach integrates ARCO's experience in the manufacture, marketing and licensing of MTBE with Union Carbide's most recent developments in molecular sieve technology. The result is the most advanced MTBE process technology available today, the two companies claim.

ARCO says it is the largest producer of MTBE and the worldwide leader in oxygenated fuels production. Its process has been licensed to refiners in the United States, Asia, the Middle East and Europe. Over 1.2 million metric tons per year of MTBE produced by the ARCO process have been installed, according to the company.

## Kerr-McGee Slates TiO<sub>2</sub> Joint Venture

Kerr-McGee Chemical Corporation says it has formed a joint-venture with a group of Middle Eastern investors to build and operate a \$120 million, 45,000-metric-ton-per-year titanium dioxide plant in Yanbu, Saudi Arabia. The facility is due on line in late 1988.

The new venture will be called Crystal Pigment Company. Kerr-McGee will hold a 25 percent stake in the company as will Shalco Ltd. of Jeddah, Saudi Arabia. The remaining 50 percent interest will be held by a consortium of private Saudi companies and the Kuwait-based Gulf Investment Group. Kerr-McGee claims Crystal Pigment will be the largest privately held chemical company in Saudi Arabia.

The TiO<sub>2</sub> plant will use Kerr-McGee's proprietary chloride-process technology.



Klaus R. Romer, who has been appointed president of McGee-Rohco, consisting of the McGee Division, the Rohco Division, the Cee-Bee Division and the International Division.

## Du Pont Takes Option On Specialty Firm

E.I. du Pont de Nemours & Co. has purchased an option to acquire ETD Technology Inc., Shoreview, Minn., a systems supplier of specialty chemicals and control processes for electroplating printed wiring boards.

As part of the arrangement, Du Pont has acquired the right to sell ETD's chemistry and control systems to printed wiring board fabricators outside the US during the option period. ETD's majority owner is CasChem Group, Inc. of Bayonne, N.J. ETD was formed in 1981 by Economic Laboratory, Inc., St. Paul, Minn. CasChem purchased a controlling interest in the firm in late 1984.

ETD's process chemicals and analytical instruments are designed to "offer quality control" of electroplating processes in the production of printed wiring boards to "help decrease costs, increase yields and reduce consumption of plating bath chemical additives," according to CasChem.

## IMC Acquires Phosphate Assets

International Minerals & Chemical Corporation has completed the acquisition of Brewster Phosphate's phosphate rock processing plants in Central Florida. IMC has also acquired the rights to Brewster's Lonesome and Haynesworth phosphate rock reserves.

Brewster is a partnership of American Cyanamid Company and Kerr-McGee Corporation, with Cyanamid the majority owner.

The transaction completes Cyanamid's withdrawal from the phosphate fertilizer business. The company had earlier discontinued the sale of diammonium phosphate following the termination on June 30 of long-term production contracts.

## Adhesives Unit Sold

Genesco Inc., Nashville, Tenn., has agreed to sell its General Adhesives Division to International Group (US) Inc., a diversified holding company, for an undisclosed amount of cash. General Adhesives was founded as a division of Genesco in 1939, and currently employs approximately 120 people.

## ECMRA Award

The European Chemical Marketing Research Association last week presented the first "Lawrie Waddams Award" to Sunio Takeuchi, manager of corporate strategy and planning in the chemical group of Mitsubishi Corporation of Japan. The award is named for the founder-chairman of ECMRA.

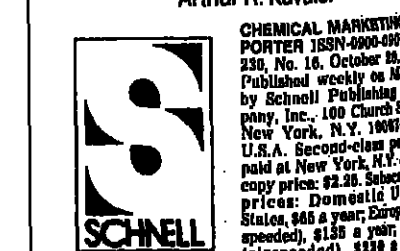
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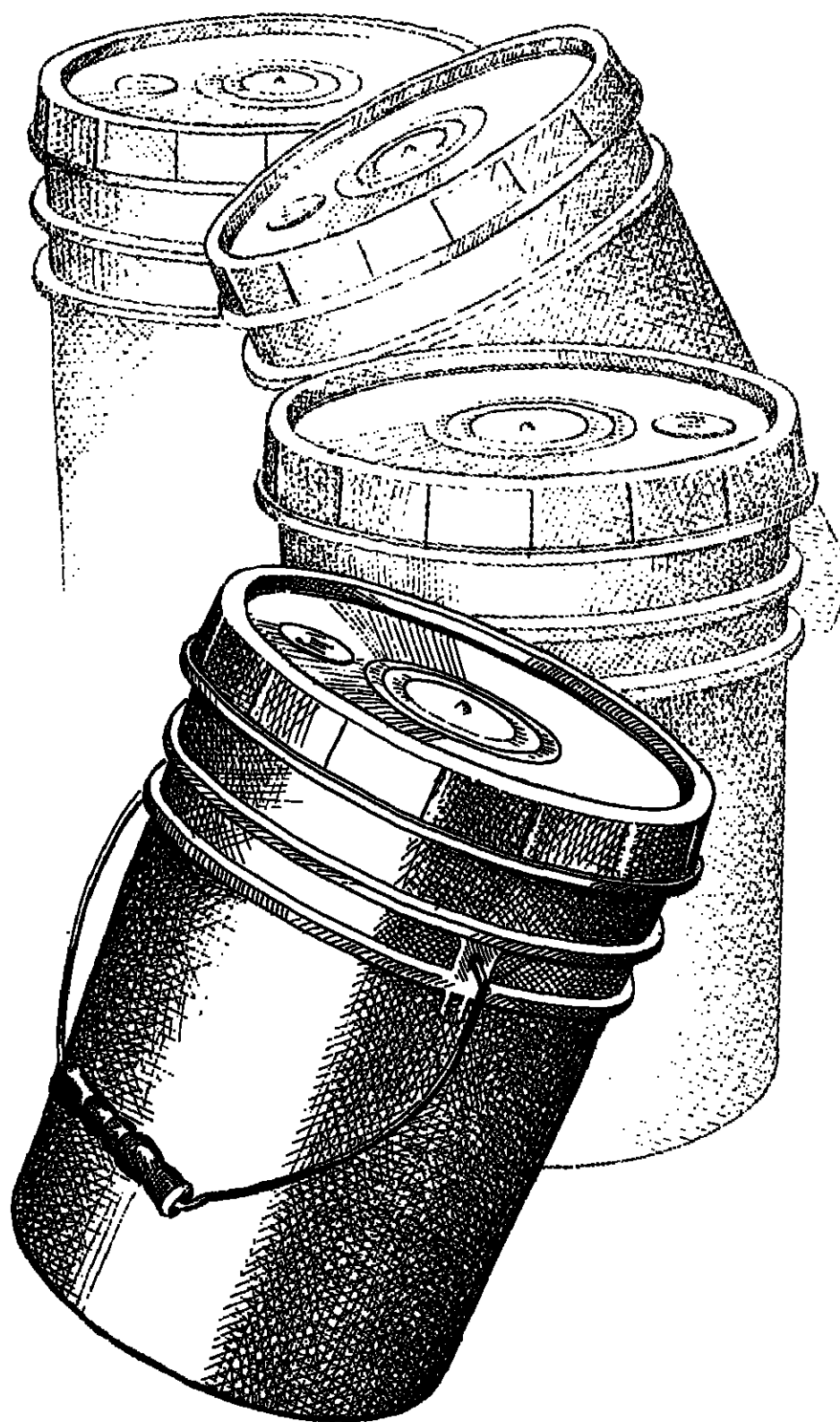
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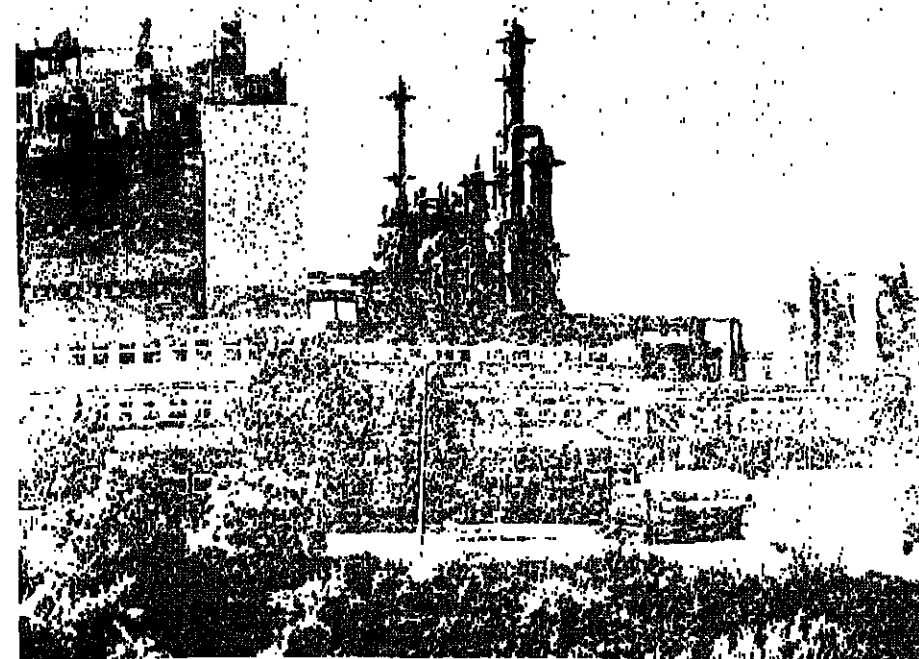
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ACETAL COPOLYMER PLANT: This plant is at BASF's Ludwigshafen, Germany, complex.

## Acetal Copolymer Plant On Way in Alabama

Construction of a \$70 million plant and related facilities to produce "Ultraform" acetal copolymer was started last Friday at Theodore, Ala. The Ultraform Company is a fifty-fifty joint venture of BASF Corporation and Degussa Corporation.

The plant, being built at Degussa's Theodore, Ala., site, will have an initial capacity for the Ultraform engineering polymer of 24 million pounds a year. Production is based on an integrated process in which trioxane serves as the principal monomer. Trioxane capacity will be 40 million pounds a year.

Scheduled for completion in early 1988, the plants will add approximately 100 jobs to the Degussa production complex. At the height of construction activity, contractors are expected to have as many as 250 workers on site. The Ultraform plant brings the total

investment at the Degussa site to \$300 million. Of this sum, about \$50 million were spent for environmental controls, including a modern biological treatment system using the new aquatic plant technology developed by Dr. Wolvertson of the NASA Research Center.

Dr. Manfred Goettsch, who is general manager of the Ultraform Company, has been in polymer production at BASF AG in Ludwigshafen, Germany. An Ultraform plant has been operating since 1971 at the Ludwigshafen, site.

BASF Corporation Engineering Plastics, Bridgeport, N.J., will be the exclusive sales agent for product supplied from Theodore.

Acetal copolymer finds applications in automotive, plumbing and hardware, electromechanical and several consumer products. Polyacetal consumption in North America totals about 160 million pounds per year.

## Mobay RIM Chemistry Seen Widening US Sales

Polyurethane-encapsulated automobile windows, produced by a one-step molding process, will be used on about 2 million US-made cars in 1987, or nearly three times this year's total, according to Mobay, a resin producer.

In 1986, approximately 700,000 vehicles are being made with modular windows by the reaction injection molding (RIM) system. In 1985, the first year of production, more than 200,000 cars used the streamlined windows.

Researchers currently are at work refining new weather-resistant (WR) chemistry used to produce modular windows that are less expensive to make without loss of properties.

### FURTHER ADVANCE

This was the report delivered at a technical conference in Toronto last week in a paper co-authored by Gregory H. Slocum, Thomas N. Thompson and Charles E. Fluharty, of the Polyurethane Division, Mobay Corporation, Pittsburgh, Pa.

Dr. Slocum, project leader in the company's automotive RIM section, presented the paper at the 30th annual technical and marketing conference of the Polyurethane Division, Society of the Plastics Industry, of New York.

New WR chemistry is making it possible to provide automotive window gaskets by the RIM process that remain strong, glossy and colorfast over long periods of time and through repeated car washings and polishings, Dr. Slocum claims.

He described the new process that will fur-

ther advance the growing popularity of the one-step RIM encapsulation of automotive windows. In the RIM process, the flexible polyurethane gasket, the required metal fasteners, tracks for sliding windows and decorative trim, are all RIM-molded around the piece of glass, in one operation, in a low-pressure, low-temperature mold.

### CONVENTIONAL METHOD

The conventional method of protecting urethane window trim from the effects of weather is by applying an in-mold coating, or by painting them after release from the mold, which is called post-painting. "Although these steps are production-viable at present," Dr. Slocum said, "elimination of these steps will obviously reduce production costs, further enhancing the advantages of RIM encapsulated windows."

Since auto window gasketing is black, the goal has been to develop a pigmented gasket of that color by the RIM system, without in-mold coating or post-painting. The unit would maintain its color on outdoor exposure and during repeated car washings and polishings.

New WR formulations involve a Mobay weather-stabilized polyurethane system that involves both an aromatic isocyanate and aromatic chain extender.

Photomicrographs of various test surfaces made by this WR chemistry showed that the samples withstood 9 months of Florida weathering and retained their glossy black finish after washing and polishing.

## Chemical Group Told To Focus on Trade

The upcoming round of multilateral trade negotiations in Uruguay could be the most important ever held for the chemical industry, possible affecting its profitability, growth and even its long-term viability for many years to come, says a leading industry spokesman.

Ronald A. Lang, president of the Synthetic Organic Chemical Manufacturers Association, told a group of industry executives in Washington last week that the US must take a hard line in the new trade talks and guard against repeating the mistakes of the past.

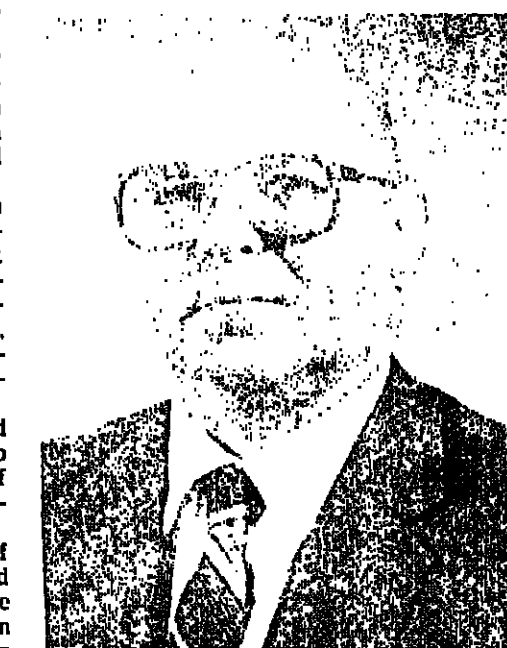
"The talks provide an opportunity to turn around our declining trade balance in chemicals but only if our negotiators recognize that the end result must be new marketing opportunities abroad and agreements which eliminate unfair import competition," he said, adding that "pragmatic economic self-interest" should be the cornerstone of the US negotiating strategy.

Mr. Lang said he believes the US should concentrate its efforts on finding ways to eliminate or reduce significant non-tariff barriers to trade, rather than on tariff cutting.

"Congress should give the President tariff cutting authority, but limited authority, and even that should be used to negotiate on the basis of specific 'request' lists rather than broad formula reductions whose impact in actual trade terms is hard to measure," he

remarked. Mr. Lang said non-tariff issues which deserve attention include restrictions on access to foreign markets by means of import licensing schemes, restrictions of for-

Continued on Page 22



Ronald A. Lang

## Burmah Oil Sets Its Sights On Specialties Business

Burmah Oil Plc. of Swindon, England, has set its sights on developing a \$800 million specialty chemicals business world-wide by 1992, and last week it took one small step in that direction.

It bought Perolin/IWC, a Chattanooga, Tenn., company which produces boiler waste, waste water and cooling treatment chemicals along with process additives. Perolin/IWC, whose annual sales total around \$8.5 million, strengthens Burmah's US presence in the water treatment field.

In a CIMA interview, Lawrence Urquhart, Burmah Oil's managing director, indicated that a four-fold growth in the company's global specialty chemicals business will be powered by six major thrusts in that sector: waxes, adhesives, water treatment, sealants, printing inks and specialty coatings.

World-wide, the company's specialty chemicals business today, excluding "Castrol" lubricants, runs to \$165 million annually, with the US accounting for about \$70

million. Burmah's US specialty sales break down this way: waxes, \$25 million; adhesives, \$25 million; and water treatment (including Perolin/IWC), \$20 million. Burmah also supplies around \$200 million of "Castrol" lubes yearly to the US market. Outside the US, it sells sealants (\$50 million) and printing inks (\$45 million).

Burmah Oil has been on a small acquisition spree in the US during the past year. Last October, it acquired Yates Manufacturing Company of Chicago, a manufacturer of wax blends. This past February, it bought the water management division of Clow Corporation, Pontiac, Mich., and made it the core of Burmah Technical Services, Inc., a division of Burmah Specialty Chemicals. Perolin/IWC has been incorporated within Burmah Technical Services.

In June, it purchased National Wax Company of Skokie, Ill., a producer of hot-melt coatings and petroleum waxes, and, last month, it acquired Columbia Cement Com-

Continued on Page 18

## R&H Pesticide Hit By EPA Restriction

Environmental Protection Agency proposed restrictions on the use of the apple pesticide dinocap last week, citing health and safety risks to workers who apply the product.

Laboratory tests have shown the pesticide, commonly known by the trade names "Karathane" and "Dikar" and used primarily to control mildew on apples, is a cause of birth defects in rabbits, EPA said.

The agency said the only risk comes from exposure to dinocap during the mixing and application process — not from eating foods treated with the chemical or from low concentrations of dinocap in products designed specifically for home use.

The agency's proposal would include restricting use of the chemical to certified applicators and workers under their supervision, requiring protective clothing for those

who handle the substance, and placing health warnings on product labels. About 500,000 pounds of dinocap is used each year in the US, 92 percent of which is used to control powdery mildew and fight mites on apples.

Rohm and Haas Company, the sole US dinocap producer, says its test data do not support EPA's concern that skin exposure to dinocap may cause birth defects.

But a company spokesman says Rohm and Haas will continue to work with EPA in assessing the possible hazards of dinocap, and notes that most of the agency's recommended procedures for safe handling are already suggested on the product's label.

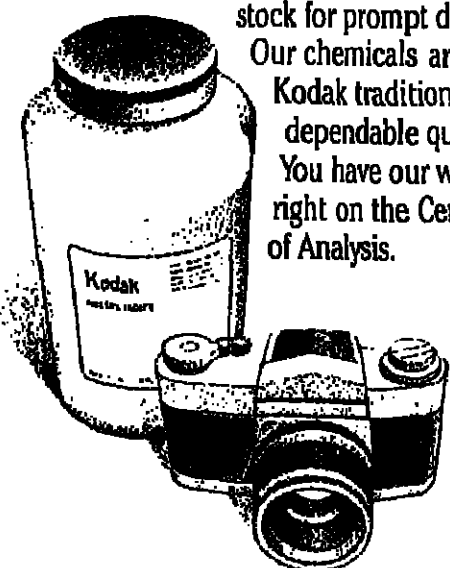
EPA says Rohm and Haas is developing a new, purer version of dinocap. Preliminary evidence indicates that in purified form, the chemical is not a cause of birth defects, according to the agency. Current dinocap production contains about 20 percent impurities.

Handwritten note: "See 1.16"

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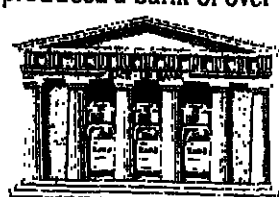
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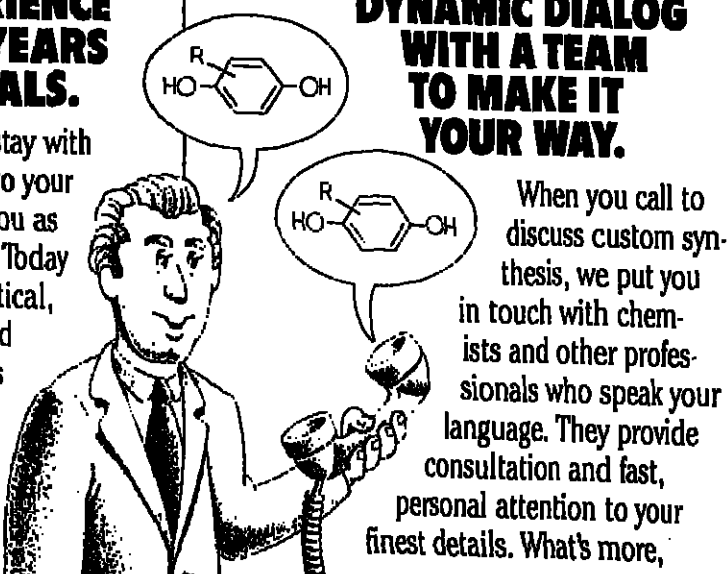
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## News Capsules

### Merck Receives Approval

Merck & Co. says it has received regulatory approval to market "Pepcid" (famotidine HCl), a new once-a-day prescription medication for the treatment of duodenal ulcers. Merck expects to make the product generally available for prescription use by mid-November.

### Angus Acquires Shares

Angus Chemical Company has acquired the remaining shares (10 percent) in Angus Fine Chemicals Ltd. formerly held by Isochem SA, Gennevilliers, France. The purchase "strengthens our strategic position to diversify into pharmaceutical intermediates and reinforces our commitment to high-growth segments of the chemical industry," Angus says.

### Toyo Soda Slates Plant

Toyo Soda USA, Atlanta, plans to start production in January of "Susteel" polyphenylene sulfide compounds in the US. The company says it will be competing with Phillips 66 and Kureha/Celanese. Sample quantities of the Toyo compounds are available from the company's joint venture facility in Japan.

### Florasynth Acquires

Florasynth Inc. has acquired Fabrique de Produits Chimiques Organiques de Laire. The French firm will operate as a separate unit of Florasynth under existing management, headed by Robert de Laire.

### Warner-Lambert Sues

Warner-Lambert Company, Morris Plains, N.J., has filed suit in US District Court for the Northern District of Illinois against My-K Laboratories, Inc., Skokie, Ill., alleging unfair competition by imitating the trade dress of Warner-Lambert's "Benlyn" cough syrup.

### Monsanto Has Gain

Monsanto Company, St. Louis, Mo., will record an after-tax gain of \$114 million, or \$1.46 per share, in the third quarter from the sale of its Texas City, Tex., petrochemical plant and related assets. The facility was sold in August to Sterling Chemicals Incorporated, which was formed for the purpose by Sterling Group Inc., a Houston-based investment firm. The Texas City plant's products, include acrylonitrile, methanol (methyl alcohol) and styrene.

### Dow Auto Activity

Dow Chemical Company is launching an integrated effort to bring all its automotive resources to the problems and problem solvers in Detroit and elsewhere. To that end, the company has created the new position of vice-president of automotive materials. R.J. Dolinski has been named to fill the position. His office and organization will be in Detroit. Hunter W. Henry, president of Dow Chemical USA, says that although Mr. Dolinski's organization will serve the US auto industry, he will also coordinate automotive activities with Dow units in Europe, Canada, South America and Japan.

### Nitrogen System

Membrane systems that generate nitrogen on-site for as little as a tenth the price of merchant nitrogen have been commercialized by Monsanto's Permea Inc., the company says. These nitrogen systems, branded "Prism Alpha," use hollow-fiber membranes to separate air into a nitrogen stream and an oxygen-rich stream. Permea claims the systems are up to four times more efficient than previous membrane-based nitrogen systems, and this efficiency translates into nitrogen at a lower cost than conventional merchant nitrogen.

### Monsanto Adhesives Unit

Monsanto Chemical Company's Resins Division last week announced the successful demonstration of its new adhesives plant at the company's Indian Orchard plant in Springfield, Mass. With a capability of line speeds ranging from 20 to 200 feet per minute, the 13-inch wide coater can employ three-roll reverse and Mayer rod techniques to coat and prepare laminates of acrylic water-based pressure sensitive adhesives.



Samuel J. Heyman

## USX Spins Off Chemical Division; Stock Sale and LBO

USX Corporation is following through on its intention stated two weeks ago to divest its chemical division with a plan that combines a stock sale to the public and a leveraged buyout.

The diversified producer of steel and petroleum products said in a Securities and Exchange Commission filing that it would transfer the assets of its chemical division into a new company to be called Aristech Chemical Corporation. About 72 percent of the shares in Aristech will be sold to the public, and about 28 percent will be held by Aristech, presumably to be available to the managers.

Aristech's shares, to be sold by a group headed by Shearson Lehman Brothers and Goldman Sachs & Co. will cost between \$17 and \$20 each and will be listed on the New York Stock Exchange.

If an initial market price of \$17 prevails, the number of shares that USX will receive is 31.3 million. USX will offer 22.5 million of these to the public and the remainder, 8.8 million, will be sold to Aristech for \$150 million.

Aristech plans to pay for these shares through proceeds from \$200 million in debt.

Continued on Page 16

## IMC, Cyanamid Complete Deal On Phos Rock

International Minerals & Chemical Corporation (IMC) and American Cyanamid Company announced last week that they have completed the transfer of the operations of the Brewster Phosphates' phosphate rock processing plants in central Florida to IMC.

IMC also acquired the rights to Brewster's Lonesome and Haynesworth phosphate rock reserves.

Brewster Phosphates is a partnership of American Cyanamid and Kerr-McGee, with Cyanamid the majority partner.

The transaction completes Cyanamid's withdrawal from the phosphate fertilizer business. The company earlier had discontinued the sale of diammonium phosphate following the termination on June 30 of long-term production contracts.

Cyanamid has restructured its businesses to concentrate on high technology, research-based products in the medical, agricultural, chemical and consumer businesses.

IMC, based in Northbrook, Illinois, is among the world's largest producers of nutrients for crops and products for animal agriculture.

## GAF Not Planning Buyback of Shares

GAF Corporation, the Wayne, N.J.-based producer of specialty chemicals and roofing materials which recently failed in a bold attempt to acquire Union Carbide Corporation, expects to continue its rapid growth record in chemicals and building products, supplemented by small acquisitions in the chemical field.

Samuel J. Heyman, who ousted Dr. Jesse Werner from control of GAF early in this decade in a bitter proxy fight, and then pruned the company for high profitability, said that the company had a "disciplined acquisition strategy" that would emphasize value-added products and would be oriented to the benefit of shareholders.

One stockholder benefit that Mr. Heyman and his colleagues ruled out for the present time is the repurchase of shares, a program that has been adopted in a large way by Celanese Corporation, Union Carbide and a number of other leading chemical companies.

Peter E. Butler, chemical analyst with PaineWebber Corporation, pointedly asked Mr. Heyman why he would not negotiate for the repurchase of some 3.5 million shares which a single stockholder has been trying to sell.

These shares are overhanging the market

and depressing the company's share price, the analyst said. Mr. Heyman, who had already said that the company could find "more creative outlets than share buybacks for its financial resources," replied, jokingly, that he was just as stubborn as Mr. Butler and had no present intention to negotiate for the repurchase of these shares.

Mr. Heyman, however, made his continued stubbornness conditional upon the availability of other outlets for investment, specifically the availability of suitable acquisitions.

Although many chemical divisions have been changing hands, the availability of complete specialty chemical companies with good product lines at affordable prices is not very great. Edward L. Hennessy, Jr., chairman of Allied Chemical Corporation, spent several years fruitlessly seeking such an acquisition, while successfully acquiring a number of electronic and high-technology businesses, culminating in the merger with Signal Companies, of La Jolla, Calif.

Carl Eckhart, president of GAF's chemical company, noted that chemical profits have been climbing 20 percent per year from \$54 million in 1982 to \$92.6 million last year. The return on sales has climbed, in the same period, from 19 percent to 25 percent. Earnings in the third period, Mr. Eckhart said, will

Continued on Page 30

## McKesson Deal Okayed

Univar Corporation has received final approval from the Justice Department and the Federal Trade Commission to proceed in its acquisition of McKesson Chemical Co. The transaction, which is planned to close October 31, will make Univar the largest independent chemical distributor in North America by a substantial margin.

At the close of the transaction, Univar will be more than doubled in size, with more than 2,500 employees, over 100 facilities nationwide, and with the anticipated annual sales of more than \$1 billion.

Univar distributes chemicals in the US through its Van Waters & Rogers division. A subsidiary, Van Waters & Rogers Ltd., distributes chemicals in Canada. The McKesson Chemical Co. operations will be combined with Van Waters & Rogers effective on the date of closing.

"We are acquiring a quality organization that will complement our existing domestic chemical distribution operations," said James W. Bernard, Univar's president and chief executive officer. "We will be improving our geographic coverage, with the addition of nearly 60 facilities, and will be adding more than 1,000 people to our work force."

"By combining the experience of these new employees with that of the current Van Waters & Rogers employees throughout the US, we will be better able to fulfill the needs of our customers and suppliers," Mr. Bernard said.

Univar's total sales for its fiscal year ended February 28, 1986 were \$538 million. McKesson Chemical Co. sales for the year ended March 31, 1986 were \$604 million.

## Hercules' Income Up 94 Pct., While Dow's Increases by 60 Pct.

Hercules Incorporated, third largest of three big chemical companies headquartered in Wilmington, Del., had by a wide margin the largest earnings gain in the first round of quarterly results released last week. Hercules' net income nearly doubled from the level of a year ago, while Dow Chemical Company had a gain of about 60 percent.

Among others in the industry reporting good results were Ethyl Corporation, Schering-Plough Corporation, Pfizer Inc., Merck & Co. and Warner-Lambert Company. Morton-Thiokol Company had a small decline from last year's level.

Hercules' net income totaled \$84.6 million, versus \$33.3 million a year ago on a small increase in sales to \$638.7 million from \$613.8 million.

Alexander F. Glacco, chairman, president and chief executive officer, noted particularly strong results in Simmonds Precision Products, water-soluble polymers, fragrances and food ingredients and paper chemicals, as well as the Himont polypropylene joint venture with Montedison SpA, of Italy. Full year, Hercules expects to report record earnings, Mr. Glacco stated.

Dow Chemical Company reported its strongest third quarter since 1959, as net income climbed to \$187 million from \$107 million.

lion and sales reached \$2.787 billion, versus \$2.873 billion last year.

Worldwide physical volume was up 6 percent, observed Robert M. Kell, executive vice-president. All of Dow's business segments recorded improved operating income, he noted. The commodity chemical area had better profitability as supply/demand balances improved.

Ethyl Corporation's net income of \$46,858,000 in the third quarter was up 34 percent from a year ago and it established a new quarterly record. Floyd D. Gottwald, Jr., chairman of the board, cited significant improvement in operating income of anti-knock and other petroleum additives. Non-petroleum chemical products reported strong gains, while plastics aluminum and energy continued behind year-ago levels, Mr. Gottwald said. First Colony Life Insurance had income about equal to that of a year ago, he noted.

Schering-Plough's third-quarter net income increased 42 percent to \$62.3 million, while sales were up 19 percent to \$600.6 million. Results are comparable to those of a year ago since 1985 figures have been restated to reflect the merger with Key Pharmaceuticals.

Robert P. Luciano, chairman and chief executive officer, said third-quarter results in-

Continued on Page 19

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## OILS, FATS & WAXES

cover any sales they might make, sources say.

A government program calling for a reduction in acres of cotton planted, coupled with an excess of wet weather in west Texas, has served to cut back on this year's expected output. "Last year we ran mills into July and August; this year, we will be going only into June, and more like March and April for smaller producers," says an industry source. Although buying demand is expected to be at least average in the coming year, the rate of crushing will be down because of competition for the cottonseed with dairy farmers. "Cattle feed people are buying the whole cottonseed at too high a price for us to compete; it remains highly doubtful how much of this crop will be crushed," says a producer.

PEANUT OIL — The price of this oil has

firmed appreciably, rising steadily throughout last week to its present level. A considerable amount of buying was done last week, apparently spurred by the weak position that the price had fallen to.

Contributing to the strengthening in the market is the fact that the peanut harvest is very late this year. "We're usually done by now," says an industry source, "but as it is, we'll be harvesting well into November." This is due to late planting and dry weather conditions this year, he says.

Most of the buying that has been taking place has been by consumers, rather than dealers, sources say. "People who'd been waiting for peanut oil came in and bought, pretty much all at once," says an industry source.

Sources are not expecting a very great amount of peanut oil this year. Preliminary estimates show only a small amount of oil-grade segregation three peanuts, meaning that oil producers will have to compete with a wider market for peanuts, sources say.

## Reagan Signs

Continued from Page 3

included in the measure. But the President came under increasing congressional and political pressure to sign the bill last week, and a White House official on Friday said top advisers were starting to "ease off" the veto threat.

"We're weakening our veto threat," the official said. He said President Reagan is "strongly committed" to the superfund program and is "aware of what trouble we'd be in if toxic waste cleanup was stopped. That's always been part of the equation."

Democrats, fearful that President Reagan would pocket veto the bill if Congress adjourned, vowed to keep Congress in session through Tuesday, forcing the President to either sign or veto the bill.

Senate Democratic leader Robert Byrd (W. Va.), asked House Democratic leader Jim Wright, Tex., not to pass an adjournment res-

olution until Tuesday, and House Speaker Thomas O'Neill (D-Mass.), asked if the House would stay to attempt a veto override, replied, "Oh yes."

At the same time, Senate Republican leader Robert Dole, Kan., gathered signatures on a letter pledging that Congress would not, if President Reagan signed the bill, approve new taxes next year for superfund or divert taxes in the bill to other programs.

The Dole letter, designed to provide President Reagan with assurance of no more taxes, said the bill "represents the only realistic compromise that will win the support of Congress now, or in the foreseeable future."

The letter agreed with President Reagan's opposition to a new broad-based corporate tax, but added "We believe strongly that there is no other workable formula for reauthorizing the superfund program."

"There is no reason to believe we will get a better agreement next year as judged by the policy concerns you have expressed," the letter said. "We do wish to assure you, however, that we will oppose any future efforts to raise the level or the rate of the broad-based tax...and we will also oppose any effort to spend revenues from that tax on any other program than superfund."

"We stand prepared to support your veto of any bill that would either increase the broad-based tax or apply it to purposes other than superfund," the letter said.

Without the extension, the superfund program, which ended up struggling this year under emergency funding measures, would have been shut down completely by the end of the year.

The superfund bill passed both the Senate and the House with better than the two-thirds margin needed to override a veto. Despite the administration's objections, Congress voted to finance the program with \$4.15 billion in taxes on the chemical and oil industries, \$1.5 billion from a broad-based corporate tax, and \$1.85 billion from general revenues, interest and cost recoveries from companies.

The White House had threatened to veto the bill on the basis of the broad-based tax aimed at corporations with taxable income above \$2 million—and the oil tax had also run into opposition.

The chemical industry supported the bill despite the substantially higher taxes it will be required to pay. In addition to the \$1.5 billion feedstock tax, the industry will pay 8 percent of the petroleum tax—or \$550 million—and \$250 million of the broad-based tax.

Overall, the chemical industry will pay \$1 billion more than it did during superfund's first five years.

Sen. Dole, anxious to adjourn and get a decision on the superfund bill, circulated a letter Thursday that pledged co-signers would fight any attempt next year to raise additional taxes for the superfund program or divert revenues in the bill to other projects.

"I believe if we could deliver a letter to the President with a pretty good number of signatures, that would give him encouragement to sign the bill," Sen. Dole said.

EPA Administrator Lee Thomas said he was pleased the President had signed the bill into law.

"His decision was not an easy one," said Mr. Thomas. "The President has wanted to maintain a strong and effective cleanup effort, one financed largely by the polluters themselves. Yet the final compromise passed by Congress includes a new broad-based tax that does not reflect the polluter pays principle."

Rep. Norman Lent (R-NY), one of the lawmakers who struggled for three years to improve the cleanup program declared, "This is a great victory for us who want sensible laws to protect our environment."

Rep. Lent said that had the President vetoed the superfund bill, Congress was ready to override the veto.

Union Carbide president and chief executive officer Robert D. Kennedy praised President Reagan for signing the superfund reauthorization legislation and commented, "Congress has developed an equitable, responsible funding approach to the cleanup of abandoned leaking hazardous waste sites. Enactment of this legislation is warranted as it will expand the current program without endangering, through overtaxation, the competitive position of US petrochemical producers," Mr. Kennedy stated.

## AROMATIC ORGANICS

### Styrene Makers Initiate November Price Increase

Styrene producers say that the industry-wide 2-to-3-cent-per-pound price increase that went into effect October 1 has met with considerable success. Some producers have announced further increases for November 1.

The October price change, in combination with a similar industry-wide initiative that went into effect September 1, has resulted in a 4-cent-to-6-cent-per-pound increase in selling price levels since August, producers say. Contract pricing is quoted in a range of 22 cents to 24 cents per pound, and the spot market for exports is quoted at 21 cents per pound.

When the price increases were implemented, firm feedstock benzene pricing was said to be a contributing cause, and steady benzene price levels in recent weeks are seen as providing support for the higher price levels.

Producers say the primary reason for their success in raising prices has been market tightness created by strong demand for major end market polystyrene, and a considerable amount of downtime being taken in the industry.

#### SUPPLY OUTAGES

"Generally speaking, the industry is very tight," comments one producer, who has been moving some product to others in need of material. The market "could stay snug for the balance of the year," he says.

Much of the industry's attention is focused on supply outages, most notably the one at Chevron Corporation's 625-million-pound-per-year St. James, La., plant. With the anticipated downtime in the industry, suppliers are very hard-pressed to meet demand, and inventories are low, says a producer.

Chevron's plant went down early in the month due to a heat exchanger problem. Following the repair, an effort to restart the unit was aborted due to blockage in a distillation column. The company now expects to resume operation early this week. A normal maintenance turnaround is scheduled for next quarter.

Among the other units taking downtime recently was the 900-million-pound-per-year part of the Cosmar Company facility in Carville, La., that is jointly owned by Borg-Warner Corporation and Cosden Chemical. The plant was shut unexpectedly for eight days in September due to a mechanical problem.

A 800-million-pound-per-year unit at the same site, originally scheduled for a November turnaround, is slated for a three-week turnaround in February. The company plans to give the larger unit a turnaround in May.

El Paso Products Company's 320-million-pound-per-year plant took a routine 10-day turnaround during September, and Dow Chemical USA's 1300-million-pound-per-year facility has just begun a three-week turnaround. Dow says it had planned to take

the downtime earlier in the month, but held off due to the condition of the market.

Sterling Chemicals says it has postponed a turnaround at its 1500-million-pound-per-year plant from October to February. Industry sources say Amoco Chemical Company will be taking some downtime in March.

Producers raising selling prices November 1 include Cosden, which is removing a 3-cent-per-pound temporary voluntary al-

#### PRICES TRENDLINES

WEEK ENDING OCT. 17, 1986

#### CHANGES/UP

None

#### CHANGES/DOWN

None

#### AROMATICS INDEX

The Aromatic Organics Index reflects the prices of 14 representative materials in this sector and the quantity of each produced in 1985.

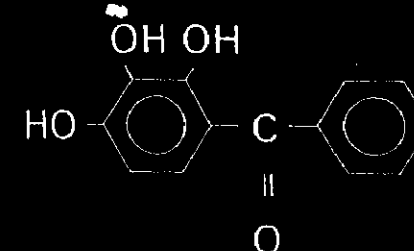
Oct. 17, 1986	167.84
Oct. 10, 1986	167.84
Sept. 18, 1986	167.84
Oct. 18, 1985	167.84

Chemical Prices Start on Page 36

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## AROMATIC ORGANIC EXPORTS: AUGUST

BUREAU OF CENSUS FIGURES IN POUNDS ON THE KEY AROMATICS.

	QUANTITY	VALUE	QUANTITY	VALUE
Alkylbenzenes, higher	1,033,125	1,018,329	830,386	782,568
Benzene, pure	1,294,371	1,234,853	846,160	680,083
Styrene, pure	6,388,086	4,291,442	6,382,338	3,912,619
Cumyl pich of	5,760,980	780,370	28,136,883	4,130,888
Cresylic Acid	378,879	1,201,771	200,080	230,480
Cumene	44,078,727	8,380,197	6,834,487	820,589
Cyclohexane	3,008,272	1,302,994	3,631,460	1,627,280
Dinitrobenzenes	2,217,581	586,544	13,236,100	2,685,848
Diethyl terphenylate	28,905,124	5,074,538	6,185,981	1,975,888
Dodecylbenzene	1,977,831	85,186	8,800,188	1,361,536
Ethylbenzene	402,304	178,016	405,083	184,987
Isophthalic acid	181,855	1,188,888	492,236	685,251
Maleic anhydride	424,100	1,188,888	492,236	685,251
Naphthalene, all grades	77,770	11,578	1,054,928	2,128,528
Phenol	19,865,188	4,850,891	8,204,980	81,700
Phthalic anhydride	5,164,402	864,282	381,286	61,700
Styrene monomer	106,888,558	16,863,958	107,899,723	16,186,887
Toluene, pure	5,116,163	3,843,772	850,726	712,088
Toluene di-isocyanates	10,717,886	8,345,831	11,165,711	8,169,601
p-Xylene	1,400,023	1,345,930	892,428	838,488
m-Xylene	16,380,488	22,147,824	16,488,935	22,482,988
Nitrobenzene	2,508,088	2,284,381	1,804,220	1,433,917

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ORGANIC INTERMEDIATES FROM RHÔNE-POULENC:

October 20, 1986

CHEMICAL MARKETING REPORTER

13



## INTERMEDIATES

**Benzic Acid  
Benzotrichloride  
Benzoyl Chloride  
Benzyl Alcohol  
Benzyl Chloride  
Benzylidene Acetone  
Meta-Nitrobenzaldehyde  
Ortho-Nitrobenzaldehyde**

## CATALYSTS

**Paramenthane  
Hydroperoxide (PMHP)  
Pinane Hydroperoxide (PHP)**

## INHIBITORS

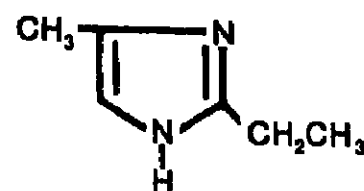
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# Chemical Finance

## Chevron to Acquire Huntington Beach

Chevron Corporation, San Francisco, and Huntington Beach Company, Huntington Beach, Calif., have agreed in principle to submit a merger proposal to the shareholders of Huntington. Chevron already holds about 66 percent of Huntington's common shares and would acquire the balance through a tax-free exchange of Chevron shares valued at \$780 each. Huntington Beach has real estate and mineral interests.

## Conference Board Sees Two Years of Growth

The US economy will enjoy at least two more years of moderate economic growth, according to the Conference Board. The board's executive panel, which is surveyed twice a year, expects real economic activity to grow by an average rate of 2.7 percent in 1987 and 2.8 percent in 1988. Not a single member of the panel foresees a recession either next year or in 1988, the board stated.

## Swedlow Cancels PPG Merger Agreement

Swedlow, Inc., Los Angeles, a manufacturer of windows and windshields for airplanes, has canceled an agreement to be acquired by PPG Industries, Inc., and has signed an agreement to merge with Pilkington Brothers PLC, of England, a manufacturer of glass products, for about \$40.6 million. Federal Trade Commission has raised antitrust objections to the agreement with PPG.

## Raytheon's Earnings Increase 6.5 Percent

Raytheon Company, a diversified manufacturer based in Lexington, Mass., raised its earnings 6.5 percent and its earnings per common share 12.6 percent on a 9.6 percent increase in sales during the third quarter of 1986 from levels of a year earlier. Earnings were \$101.5 million, or \$1.31 per share, on sales of \$1.714 billion, versus \$95.3 million, \$1.17 and \$1.564 billion a year ago.

## Solvay's Earnings Up 20 Percent in Half

Net profits of the diversified Belgian chemical maker, Solvay & Co., totaled about \$120 million (4.857 billion Belgian francs) in the first half, an increase of more than 20 percent from the \$98 million earned in the same period a year earlier. Lower raw material prices were reflected in lower product prices, with the result that sales declined slightly to \$2.75 billion from about \$2.85 billion, although material volume increased. Consolidated cash flow amounted to \$283 million, versus approximately \$233 million the previous year.

## PPG Completes Honeywell Acquisition

PPG Industries, Inc., has completed the previously announced acquisition of the domestic Medical Electronics Business of Honeywell, Inc., based in Pleasantville, N.Y., and a majority interest in Honeywell's similar business based at Best, in the Netherlands. The acquired operations produce patient monitoring, diagnostic and therapeutic electronics and related devices.

## Procter & Gamble Has All-Time High Volume

Procter & Gamble Company, diversified consumer products company based in Cincinnati, Ohio, told shareholders at its annual meeting that unit volume in the third quarter set an all-time record for any quarter in the company's history. This is true even if the two years are made comparable by exclusion in 1986 of products of Richardson-Vicks and G.D. Searle which were acquired in the latter part of last year. John G. Smale, chairman and chief executive, comments.

## Du Pont Gets Option on Electronics Firm

The Du Pont Company has purchased an option to acquire ETD Technology, Inc., of Shoreview, Minn., a systems supplier of specialty chemicals and control processes for the electroplating of printed wiring boards. Du Pont also acquired the right to sell, during the option period, ETD's products and systems to fabricators outside the U.S. ETD was organized in 1981 by Economics Laboratory Inc., of St. Paul, Minn. Late in 1984, CasChem Group, Inc., of Bayonne, N.J., acquired a controlling interest.

## Henkel Acquiring Ford Motor's Parker Business

Henkel of America, a subsidiary of Henkel KGAA, of Duesseldorf, West Germany, has agreed to acquire Parker Chemical Company, a subsidiary of Ford Motor Company, for an undisclosed amount, subject to regulatory clearance. Parker, headquartered in Madison Heights, Mich., manufactures and markets metal treatment products for the automotive, metal forming, coil coating and metal packaging industries, along with lubricants and certain adhesives.

Henkel KGAA is a multinational producer of consumer products and specialty chemicals with sales in excess of \$4 billion.

## Cabot Selling Aluminum Master Alloy Business

Cabot Corporation, Boston, Mass., has agreed to sell its aluminum master alloys business to Harbour Group, St. Louis, Mo.-based producer of synthetic fibers, medical products, process equipment and cutting tools, for an undisclosed amount. The aluminum master alloys business is one of several operations representing approximately 40 percent of Cabot's assets which are being sold as part of a major restructuring program. Trademarks involved in this transaction are "KBI," "Kawecki," "Tibor," "Tital," and "Boral."

## Owens-Corning Tells Restructuring Plan

Owens-Corning Corporation last week revealed a recapitalization plan that will be based on the divestment of low-margin businesses accounting for about one-third of its revenues. After implementation of the plan, sales will be about \$2.4 billion, as compared with \$3.8 billion now. Gross margin on sales is expected to advance from 22.9 percent to 27.8 percent.

## AROMATICS

Continued from Page 13

week. The market had been quoted at 81c. per gallon since late September, and the firming trend is attributed to a slight pickup in demand that could be part of a trend.

"Everybody loaded up before prices went to 85c. per gallon," says a trader, and these consumers "are going to have to reload" during the second half of October.

The spot toluene market was quoted between 66c. and 67c. per gallon last week, virtually unchanged from a week earlier, although the price did drop to 64c. per gallon in the interim. The price fluctuations are said to reflect the gasoline market.

Xylene is quoted on the spot market at 76c. per gallon, a price that has changed very little during the past several weeks.

Industry sources expect basic aromatics pricing to hold steady or possibly turn slightly upwards during the balance of the fourth quarter, provided that Organization of Petroleum Exporting Countries' output quotas, styrene demand, and European octane demand hold up.

In Montreal, Canada, a Petro Canada Ltd. unit has been shut since an explosion and fire at the company's reformer. The BTX unit was damaged, and is scheduled to restart October 27.

The lost production has a tightening effect on the North American market, says a US producer, who observes that Petro Canada sells a fair amount of material in the Gulf Coast. It is believed possible that the company may even need to buy some BTX in order to cover commitments.

PHENOL — Producers say customers in the phenolic resins business played an instrumental role in the failure of the October 1 industry-wide 2c. per pound price initiative. Phenolic resins account for about 45 percent of phenol demand. One producer comments that this typically is a difficult time of the year to raise prices since demand is seasonally slow.

USS Chemicals says it has returned to full production this month at its 600-million-pound-per-year Haverhill, Ohio plant, which was down from September 20 to October 1 due to a mechanical problem with the oxidizer. "We lost some production, but covered all our customers," a spokesman says.

A rival producer says that USS's downtime had "some minor impact on the market." The prompt resumption of production minimized any tightening effect, he says, since, at the time the plant went down, it appeared likely it might be out of commission for considerably longer than 10 days.

## Searle Case

Continued from Page 5

state court said the law unduly interfered with interstate commerce.

But the 3rd US Circuit Court of Appeals last January said the 1983 ruling should not be applied retroactively to the Cohn's case. It ordered Searle to defend itself at trial against the couple's suit.

In appealing to the Supreme Court, lawyers for Searle said there are hundreds of other pending suits in New Jersey against out-of-state companies that are affected by the 3rd circuit court ruling.

The Supreme Court ruled in the Cohn's favor four years ago, when by an 8-1 vote it refused to kill the lawsuit. At that time, the justices said the state law did not violate equal-protection rights but reached no decision on the interstate-commerce issue.

## Business Confidence Slips Eleven Points

Business leaders in virtually all major industries are far less confident about the US economy than they were only a few months ago, the Conference Board says. The board's quarterly survey covers about 1,000 business leaders in 24 major industries.

The Board's measure of business confidence (1985=100) tumbled to 50 in the third quarter, down from 61 in the first and second quarters of this year.

Sharp declines were recorded in top executives' views of both current and future business conditions. Fewer than one-third of the executives surveyed expect the U.S. economy to improve during the next six months.

"Business leaders are apparently less sanguine than they were earlier this year about the economic impact of new federal tax policies, this country's trade balance and even the still relatively low rates of inflation," explains Conference Board economist Steven Mallin, who directs this survey. "Latest Index readings show that the executives who head this nation's major businesses have lowered their expectations for the economy at large and their own industries as well."

Strong competitive pressures will limit price hikes during the rest of 1986 and 1987. Only 12 percent expect their prices to accelerate in 1987; another 21 percent plan to raise prices at the same rate as this year; 6 percent expect their prices to decline. The large majority (81 percent) look for prices to rise slower next year than in 1986 or anticipate no change in their price levels.

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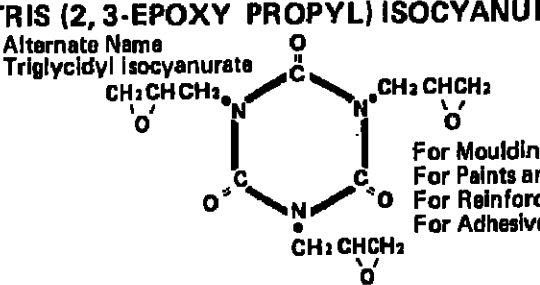
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## Specialty Sales to Rise, But Industry Is Changing

US sales of specialty chemicals will increase by 5 percent to 6 percent annually through 1990, roughly equivalent to twice the annual growth of the entire chemical industry. However, despite its rapid growth, the specialty chemical industry is experiencing a series of changes.

These changes will require different strategies and tactics on the part of specialty chemical suppliers to cope with the new environment, according to Andrew A. Boccone, executive vice-president of C.H. Kline & Co.'s Chemicals Group.

Of the 47 categories of specialty chemicals analyzed by Kline, only seven will exhibit significantly better-than-average growth over the next five years. "The businesses which will experience the greatest increase in sales are those with rapidly changing technology such as diagnostic aids, electronic chemicals and materials, and specialty polymers," says Mr. Boccone.

### RESEARCH AND DEVELOPMENT

As a result, companies wishing to participate in these businesses will have to spend a greater percentage of sales on research and development than that normally associated with other specialty chemical businesses. Global marketing of products and services will be important to get the most mileage out of the R&D expenditure.

"Successful suppliers in these high-tech, glamour businesses will be those companies who are on the leading edge of product development and anticipate change rather than responding to the customer needs," Mr. Boccone adds.

Different strategies for growth will be required by those companies participating in the more mature specialty businesses. Suppliers of such specialty chemicals as cosmetic additives, industrial coatings, and water management chemicals will seek to expand by identifying product niches, end-market segments, or geographic regions exhibiting better-than-average growth, according to Kline.

Because of the hard times which have fallen upon some of the domestic end users of specialty chemicals, suppliers of specialty chemicals will seek to develop their businesses internationally. For example, US steelmaking has shrunk to one-half its size over the past five to eight years.

### INTERNATIONAL SALES

As a result, such suppliers of water treatment chemicals and specialty metalworking fluids as Nalco and Quaker Chemical have continued to develop their international businesses to a level where today international sales account for roughly 20 percent and 40 percent of their total corporate revenues, respectively.

"On the other hand," Mr. Boccone adds, "we are seeing greater ownership of US specialty businesses by foreign firms than ever before." US-based chemical companies are taking a long hard look at their businesses and divesting those units which no longer fit in their future plans. In 1985 there were some 104 acquisitions of US-based chemical and allied trade organizations by European-based companies including 24 specialty chemical businesses. Some of the most active European acquirers include Akzo, BASF, Henkel, and ICI. "Japanese firms, which have traditionally sought either to acquire technology or to enter into a joint venture, are also now seeking to acquire," according to Mr. Boccone. For example, Japan's Dainippon Ink & Chemicals plans to acquire Sun Chemical's graphic arts and materials business for \$550 million.

Foreign investors tend to be more patient with their investments from financial considerations. Such investments are viewed as part of their long-range plans for globalization, and as a vehicle to give them a window on new markets and technologies. If this trend continues, we will see a consolidation of specialty chemical businesses in the hands of fewer and more international suppliers.

What lies ahead for the US specialty chemical business by the year 2000? There will continue to be increased globalization, particularly in the developing regions of the

world such as Southeast Asia and in the Peoples Republic of China (PRC). New specialty businesses will develop and replace the more mature ones. According to Mr. Boccone, these businesses will probably possess a greater technology and materials component and encompass total system capabilities.

Such developments will be the seeds for growing new specialty chemical companies. Additionally, the large chemical companies will continue to assess their portfolios which may lead to the divestiture of some specialty chemical businesses.

## Fertilizer Signals

Continued from Page 5

decreased 16 percent and solid urea dropped 9 percent.

Exports of ammonium sulfate continued a strong performance relative to last year, and shipments now total 250,000 tons. Exports of other nitrogen products declined in the July-August comparison.

Domestic disappearance of processed phosphates dropped 63 percent in August 1986, compared with the same month of 1985. All products except normal superphosphate declined, including phosphate rock which dropped 9 percent.

Production of all processed phosphates was less or unchanged relative to last year, and phosphate rock was 14 percent less. Recorded production of DAP was 6 percent less, MAP was 19 percent less and concentrated superphosphate declined 11 percent.

The ending inventory of DAP was unchanged from last year, and MAP was 1 percent less. Concentrated superphosphate inventory increased 18 percent, and wet process phosphoric acid increased 9 percent.

Phosphate exports were mixed relative to last year, with phosphoric acid and concentrated superphosphate improving, and other products, including rock, declining. DAP exports now total just over 1 million tons for the July-August period, a 12 percent loss from last year.

Domestic disappearance of potash products was unchanged in August 1986 relative to the same month of 1985. Standard and coarse muriate declined, while granular increased.

Production in the US declined 1 percent, with an increase in granular production being offset by decreases in standard and coarse. The ending inventory of potash materials dropped 13 percent in total, due to reductions in coarse and standard muriates.

## USX Spins Off

Continued from Page 9

\$50 million of which would be used for working capital.

USX said recently that it would divest its chemical business and study several other restructuring moves after it became learned that Carl C. Icahn, a New York investor, had been accumulating a substantial stake in USX, pointing toward a possible takeover effort. Two other investors also were buying heavily into the company.

Mr. Icahn, who recently won control of TransWorld Airlines, subsequently made an offer to acquire USX for \$31 per share, or a total of \$7.19 billion. USX said that it would evaluate the bid, and has not since commented on it. It is assumed that if the bid is rejected out of hand, Mr. Icahn will proceed with a tender offer to the company's shareholders.

USX's divestment plan for the chemical division has some features in common with Allied-Signal, Inc.'s spin-off earlier this year of 35 chemical and assorted businesses into a new publicly held company called Henley Group. Allied-Signal, however, kept around one-third of the Henley shares for itself, while the others are now in the public domain after a spin-off to Allied-Signal shareholders.

Proceeds to USX from the sale of the chemical division will total between \$500 million and \$575 million. In one way or another, these funds could be used by USX to defend against a forced merger.

## ALIPHATIC ORGANICS

### Butene-1 Levels Off

Continued from Page 5

ing to hexene-1 as a preferred comonomer in high performance resins, while Dow employs octene-1 in its "Dowlex" process. At present, a Carbide official says the company uses far more butene-1 than hexene-1, but the C<sub>8</sub> alpha-olefin is making rapid penetration.

Sources say that butene-1 will retain a large demand base in commodity LLDPE film grades used for producing items like trash bags, institutional liners, and grocery sacks. However, these markets are viewed as mature, and US manufacturers are increasingly focusing on higher performance grades of resin.

The commodity grades of LLDPE are being produced in abundance, however, by Saudi Arabia, and other new centers of polyethylene production. As a result, some observers view the export market as a growth market for US butene-1 makers. Bureau of Census figures reveal that exports of butylenes, a basket category dominated by butene-1, are running 8 per cent ahead of last year through the first eight months of 1986. An impressive achievement, since world capacity is estimated to exceed demand by 150-million pounds.

### OIL PRICE COLLAPSE

Despite a strong year for polyethylene makers, most market observers have characterized the butene-1 market as being soft for most of the year, and pricing has been weak. Pricing has been adversely affected by the collapse of oil prices early in the year, of course, but market conditions have also played a role. As recently as April, sources said butene-1 prices stood at 26 cents per pound for chemical applications. Since then, prices have slid to 18 cents per pound or worse, before firming in recent weeks to just under 20 cents per pound.

### CHEVRON EXPANDING

In addition to some price firming in recent weeks, several butene-1 makers have said that supplies have tightened, although a clear consensus on this trend has failed to emerge. It is known that Chevron, a smallish butene-1 maker, has taken down time in September and October in order to expand its alpha-olefins plant at Cedar Bayou. The expansion will boost alpha-olefin capacity there from 200 million pounds to 250 million pounds per year. Within this increase, butene-1 capacity will rise from 28 million pounds to 35 million pounds per year. The facility is due back on line next month.

Sources note, however, that Chevron's downed capacity is not large enough by itself to cause market tightness. It has been suggested by several observers that Exxon is experiencing operating "problems" at its large Baytown, Tex. butene-1 unit, but the company flatly dismisses this charge. Nevertheless,

theless, several sources say supplies have tightened recently. Texas Petrochemicals' large capacity at Houston is sold out, one source states.

The descriptions of Exxon's "problems" at Baytown center around raw material dislocations. Some theorize Exxon can't get enough raffinate-2 raw material for its butene-1 unit. One knowledgeable source, however, refutes this theory and suggests that Exxon is simply directing a large portion of its raffinate-2 output into the gasoline pool where it is a valuable source of alkylation.

Whatever problems may exist, sources say this supply tightness is very temporary, and butene-1 availability will most likely return to a loose footing by year-end.

## PRICES TRENDLINES

WEEK ENDING OCT. 17, 1986

### CHANGES/UP

None

### CHANGES/DOWN

None

### ALIPHATICS INDEX

The Aliphatic Organics Index reflects the prices of 20 representative materials in this sector and the quantity of each produced in 1985.

Oct. 17, 1986	222.80
Oct. 10, 1986	222.80
Sept. 19, 1986	222.80
Oct. 18, 1985	222.80

Chemical Prices Start on Page 36

tion of its raffinate-2 output into the gasoline pool where it is a valuable source of alkylation.

Whatever problems may exist, sources say this supply tightness is very temporary, and butene-1 availability will most likely return to a loose footing by year-end.

**GLYCERINE** — Two glycerine producers have announced price reductions, effective earlier this month.

Emery Chemicals announced a 5c.-per-pound roll-back on all grades of CP/USP glycerine. The reduction becomes effective October 6. New prices for bulk shipments delivered East of the Rockies are as follows: "Emery 912" glycerine, 96 percent, 82.75c. per pound; "Emery 918" glycerine, 98.5 percent, 84.5c. per pound; "Emery 918 Ultra" glycerine, 99.7 percent, 88.5c. per pound. Shipments West of the Rockies carry a premium of 4c. per pound.

In addition, Dow Chemical announced a 3c. per pound list decrease and instituted a 2c. per pound TVA on glycerine, retroactive to October 4. New prices are as follows: glycerine, 99.5 percent USP, 88c. per pound plus a 2c.-per-pound TVA; glycerine, 96 percent USP, 86.25c. per pound plus a 2c.-per-pound TVA. On both grades, seller absorbs freight. Emery producers natural glycerine, while

## ALIPHATIC ORGANIC IMPORTS: AUGUST

BUREAU OF CENSUS FIGURES FOR THE KEY ALIPHATICS

	AUGUST	JULY
Acetic acid	8,929,272	1,288,616
Acetic anhydride	1,453	78,684
Butadiene	1,453	39,308
Butanol	12,032,279	1,792,120
Chloroacetic acid	1,182	2,014
Ethanol (industrial)	2,493,220	902,024
Ethanolamines	17,807,368	14,032,576
Ethyl acetate	86,199	39,423
Ethylene glycol	45,807,075	8,427,735
Formic acid	1,315,410	256,988
Glyoxal	17,824	2,471,488
Hexamethylenetetramine	166,548	65,748
Lactic acid	970,977	559,982
Methanol	26,596,796	589,932
Methyl chloride	2,813,880	485,223
N-methyl-2-pyrrolidone	6,487,372	983,423
Octanol	35,637	46,654
Quats	1,098,448	278,514
Permethrin and di-PE	1,5428,657	450,530
Permethrin	1,518,455	752,238
Propylene oxide	8,724,454	1,350,917
Sulfuric acid	2,625,220	982,683
Tetrahydrofuran	284,036	501,137
Tetrahydrofuran	1,950,008	180,848
Vinyl acetate, unpolymerized	1,125,580	197,643
Vinyl pyridine	1,689	1,689
August value figures represent C.I.F. values: customs value plus freight insurance.	185,888	645,600
	278,587	494,868

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## ALIPHATICS

Dow makes a synthetic product.

Both producers say the increase is in response to current market conditions. One industry source says that Procter & Gamble, the largest natural glycerine producer, has enacted a similar decrease. Procter & Gamble recently announced expansion of its glycerine refining capacity (CMR, 9/29/86, pg. 7).

## Burmah Oil Sets

Continued from Page 7

pany, a Long Island-based producer of adhesives, with sales nearing \$25 million. With the acquisition of Columbia Cement, Burmah established adhesives as its fifth specialty chemicals sector.

Mr. Urquhart says that Burmah Oil definitely wants to establish a firmer footing in specialty coatings, and he reveals that the company has look at, and rejected, at least one new US opportunity in this sector. He adds that it is currently investigating several

others. For "Castrol" lubricants, he sees a doubling of US business within five years to \$400 million.

Burmah Technical Services manufactures water treatment chemicals as well as process treatment chemicals sold to the automotive, paper, petroleum, oilfield production and other industries. The unit's analytical services division provides sampling and analysis for a variety of industrial companies and consulting firms.

Burmah Oil is the transporter of liquefied natural gas from the world's largest LNG project in Indonesia to Japan.

## Kerr-McGee Fined by NRC

The Nuclear Regulatory Commission unanimously agreed last week to allow a Kerr-McGee Corp. subsidiary to resume operations at its uranium processing plant after fining the company \$310,000 for violations related to a January 4 accident that resulted in the death of a worker.

Most of the fine, \$300,000, is for three violations directly associated with the accident at the Sequoyah Fuels Corp. plant near Gore, Okla.

NRC investigators said a steel shipping cylinder was accidentally overfilled with uranium hexafluoride, used in the manufacture of nuclear fuel rods, because a cart was improperly placed on a scale.

Workers moved the cylinder into a steam heating chest in an effort to bleed off the excess material, which solidifies at normal temperatures. Instead, the cylinder ruptured.

The NRC said Sequoyah Fuels, a uranium processing company, failed to adhere to a written operating procedure for heating an overfilled container of uranium hexafluoride.

In addition, two of the plant's four shifts had no documented training in the operations procedures for handling overfilled cylinders, and the shift manager did not have a thorough knowledge of the procedures, according to NRC.

The accident sprayed caustic fumes up to 18 miles downwind from the plant site. One worker died after being trapped in the acid spray and inhaling the fumes. Another 30 people were hospitalized overnight after

breathing the fumes, and about 100 people, including area residents and motorists on a nearby interstate highway, consulted physicians.

In a letter advising the company of the fines, James M. Taylor, director of NRC's office of inspection and enforcement, said the violations "involved flagrant NRC-identified violations that reflect a serious breakdown in management controls."

In addition, the company was fined \$10,000 for four violations not directly related to the accident.

Those violations were failure to have written, approved procedures for certain radiation safety activities, failure to respond properly as outlined in a contingency plan submitted to NRC in 1982, and failure to update that plan as required.

Kerr-McGee officials said they will meet with NRC to discuss a start-up date for the Sequoyah plant. The company must first submit the name of a consultant to oversee the Gore plant's operations, and the consulting firm must be approved by the NRC staff.

## Midland Chemical Acquires Magee

John P. Roth, president of Midland Chemical Corporation (formerly Midland Chemical), Chicago, Ill., has acquired Magee Industries. These two privately-owned companies are both in the field of floor maintenance and related chemical specialty products.

Magee Industries will operate as a division of Midland. All key Magee personnel, including customer service representatives, have been retained, and the plant will remain in operation in Des Plaines for the time being. The Magee product line and price lists now in effect also remain unchanged currently.

Midland has broken ground on a large addition to its plant in Alsip, Ill., and it is anticipated that in a few months both divisions will operate from the same facility.

## EG & G Lubricant Unit Slated for Chevron

EG & G Inc. announced that its lubricant technology center, designed and constructed in San Antonio, Tex. for Chevron Chemical Company, will be in full operation by January, 1987, six months before the contractual deadline.

Twenty-two of the twenty-five stationary test stands have been approved as required by the American Society of Testing and Materials. The LTC will be operated by EG & G research personnel and will test lubricant products and additives for Chevron's Oronite additives division. EG & G hopes to realize

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## Hercules, Dow

Continued from Page 9

clude an exceptional 32 percent increase in worldwide pharmaceutical sales. The overseas increase was paced by sales of allergy and cold products in Europe and Japan, and dermatologics in Latin America. Strong gains also were tallied in anti-infective and anti-cancer product lines, Mr. Luciano said.

PPG Industries Inc. had earnings of \$82.5 million in the quarter, as compared with \$73.9 million a year ago. Vincent A. Sarni, board chairman, comments that growth of the economy has been sluggish, and the trend is expected to continue in the present quarter. PPG's glass business experienced increased sales, while the company's coatings business gained market share. Mr. Sarni commented. In chemicals, volume was relatively strong except for potash, he noted.

## PFIZER GAINS

Pfizer had a 14 percent increase in net income in the quarter to \$176.6 million, while sales increased to \$1.1631 billion from \$1.0128 billion.

Strongest performers for the quarter were worldwide hospital products and consumer products, with respective gains of 30 percent and 17 percent, a spokesman for Pfizer said.

Warner-Lambert's net income in the period increased 17 percent. Joseph D. Williams, chairman and CEO, attributed the gains to increased productivity and improved sales in all business segments.

Merck & Co. had a 27 percent increase in third-quarter net income to \$173 million, as sales advanced 23 percent to \$1.1 billion. Unit volume gains registered by both the company's domestic and international operations contributed to sales growth in the quarter and the first nine months, said Dr. Roy Vagelos, chairman and CEO.

Charles S. Locke, chairman and CEO of Morton-Thiokol, disclosed net income of \$33,060,000, down from \$34,753,000 a year ago.

The main factor in the decline was the interruption of the space shuttle program. Specialty chemical sales increased 13 percent and earnings were up 34 percent, while salt and salt products had an 18 percent earn-

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ings increase on a 2 percent increase in sales, Mr. Locke said.

In other reports late last week, Koppers Company said its earnings in the quarter advanced to \$1.05 per share from \$1 last year; International Minerals & Chemical Corporation disclosed net earnings of \$2.3 million, down from \$8.9 million last year, and GAF Corporation said its earnings were a record \$24.5 million, as compared with \$15.6 million a year ago.

In a late pharmaceutical report, Upjohn Company said its quarterly earnings from continuing operations in the period were \$61 million, an increase of 33 percent from \$46 million in the same 1985 quarter.

In the cosmetics and toiletries industry, Avon Products Incorporated reported a 60 percent increase in earnings per share from continuing operations to 40 cents from 25 cents a year earlier. Hicks Waldron noted this was the fourth consecutive quarter of increased earnings.

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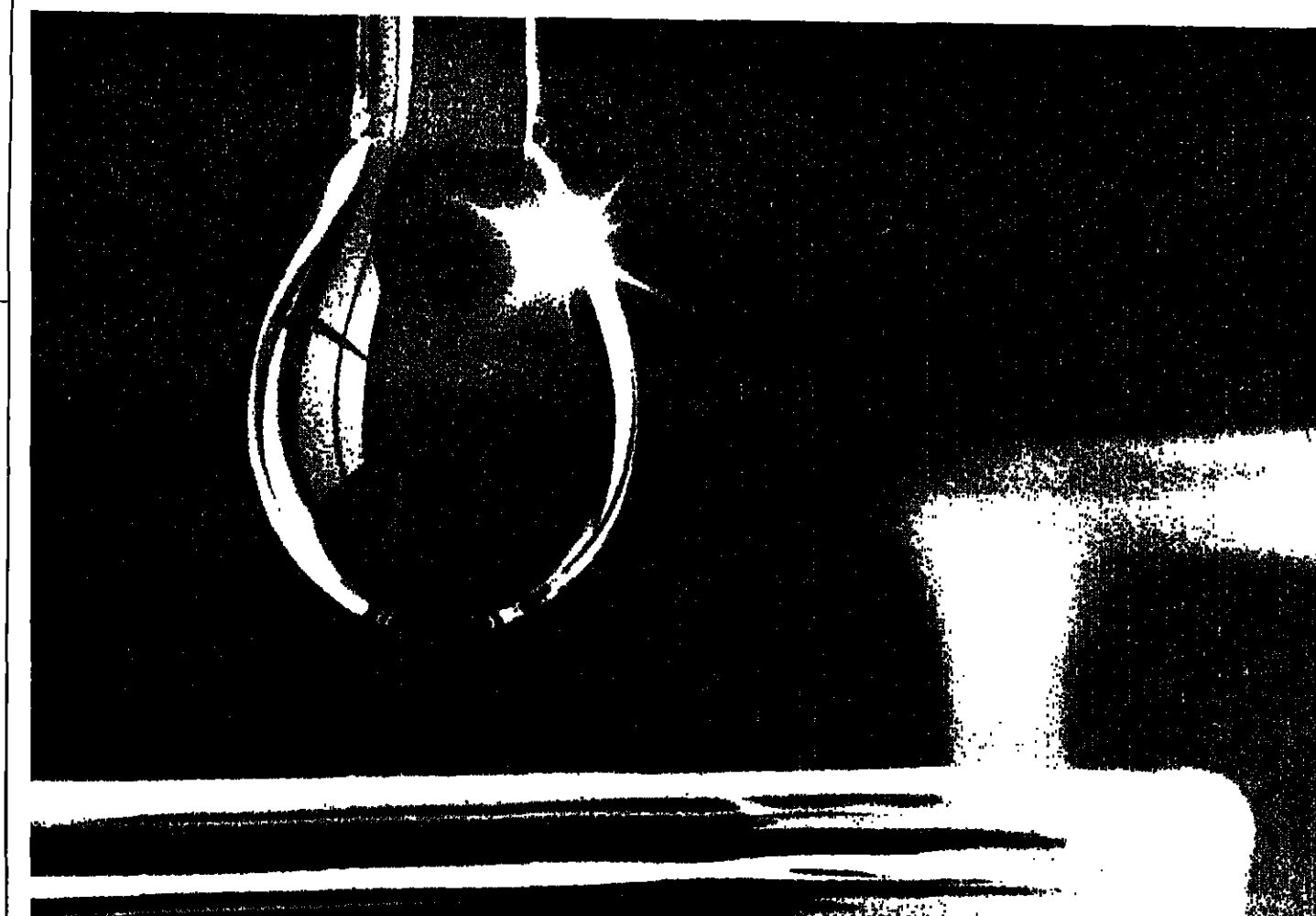
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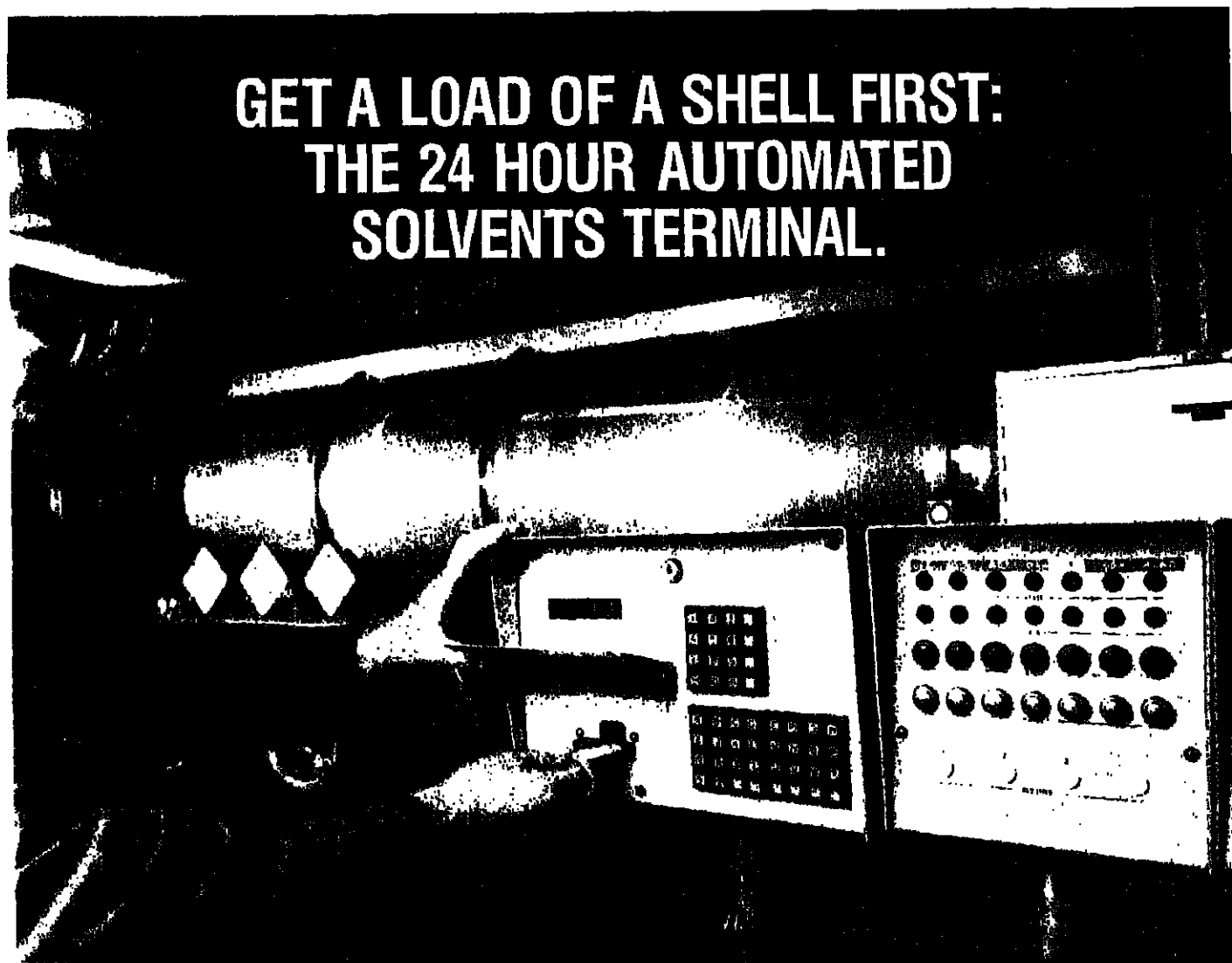
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## Oil Dependency Is Seen As Danger for the 1990's

The nation is embarked on a "head-long rush to foreign oil dependency," Amoco Corporation Chairman Richard M. Morrow says.

And the government's near silence on the issue, and the actions taken by Congress — particularly during the last decade — have actually worked to hasten and magnify this dependence, he continued.

Speaking before the recent annual meeting of the Texas Mid-Continent Oil & Gas Association, Mr. Morrow contrasted this with the stated Soviet aim of insuring reliable energy supplies for itself and its allies.

In 1986, when the US rig count was dipping to new lows, the Soviet count was climbing to record highs. "If present trends continue," he said, "the Soviet Union will soon pass this country in total footage drilled, despite the handicaps of less efficient equipment and inferior technology."

Although there is "a high level of uncertainty about the future," Mr. Morrow says that even the most optimistic scenario would result in a substantial decline in US production.

"And with demand increasing due to lower oil prices," he said, "it is no exaggeration to forecast that US dependence on foreign oil imports could rise to 50 percent of supply by the early 1990's."

Heightening the dangers of this trend is the growing influence of Iran in OPEC and the affairs of the Middle East. "With abundant

evidence of this country's greater future dependence on Middle East oil, the ascendancy of a hostile state like Iran could have profoundly serious consequences," he says.

The situation could escalate to a threat to national and economic security, he continued.

Mr. Morrow's recommendations to strengthen the nation's energy security include repeal of the misnamed Windfall Profits Tax. The tax was wrong in conception, he said, and is now ineffective in execution, given the current level of oil prices. Therefore, repeal would represent no loss of revenue to the government but would remove a potential future drain on industry investment funds.

He also suggests the complete decontrol of natural gas, which also would have little effect on consumers, and that the government step up purchases of domestic oil for the Strategic Petroleum Reserve. "Doing so," he says, "would provide the domestic industry with a modest increase in revenue, while helping to assure protection against potential future supply problems."

Beyond these near-term measures, the Amoco chairman said that it is inevitable that the economics of the oil business will be restored to more rational levels. Meanwhile, despite the formidable challenges, he concludes, the industry must "go forward in the knowledge and with the confidence that we can ride out our present difficulties once again as we have done so often in the past."

## DRUGS & FINE CHEMICALS

### Rhone-Poulenc Xanthan Is Now on Line in France

Rhone-Poulenc notes that its xanthan gum capacity expansion, originally slated for June, is now complete. The company's xanthan gum capacity was increased to 4,500 metric tons from 3,000 metric tons, and production began in September.

A Rhone-Poulenc spokesman says the decision to expand capacity was made in late 1984 or early 1985, so the 1986 arrivals of Ceca SA and Miles Laboratories, Inc. on the xanthan gum scene did not cause the company to reconsider its expansion. "It's not the kind of plant that can be put up in six months. It's a long-term process."

The two recent arrivals, Ceca SA and Miles, entered the market around the beginning of 1986. The companies gave similar reasons for their decisions to enter. Essentially, xanthan gum is considered a logical extension of the companies' product lines.

#### NEWCOMERS OPTIMISTIC

A Miles spokesman notes that the company is "pleased with (its) advance in the market place. We're pleased with our acceptance." A Ceca SA spokesman admits that the start-up process is a slow one, but adds the situation is the same when starting up any product. He claims the market for xanthan gum is strong, and thinks Ceca SA will see substantial growth in 1987. Both companies are said to price their product "competitively." Ceca SA imports from France, and Miles imports from Austria.

Other established sources continue to show relative indifference concerning the new players. "I think they're experiencing a very formidable challenge of scaling up to production of xanthan gum," says one trade source. Elaborating, he says, "It's taken us a long time to get where we are today." He says that while small-scale production can be done in laboratories, "large-scale production is different. I believe they're experiencing problems. It's not surprising. We've gone through it. Fortunately, we're through the learning process."

Another player notes that his company's capacity is large enough to satisfy requirements, and he doesn't foresee losing many customers.

One company sells its product for \$5.65 per pound, while another claims pricing is higher, between \$5.73 and \$5.80 per pound. Both companies say there is no discounting.

Players note that, contrary to usual practice, no company has thus far initiated a Fall price increase. Generally, they claim, prices rise in either September or October.

Pfizer, Inc., the domestic producer of industrial grade xanthan gum notes that demand is down, because much of the product is

earmarked for the oil industry, which is currently depressed.

A spokesman says that its industrial grade's price has come down recently because of technological developments. He says once the oil situation improves, xanthan gum pricing should either remain the same or decrease further.

Prices are as follows: \$1.70 per pound, active, for 4 1/2 percent broth, f.o.b. plant; \$2.50

#### PRICES TRENDLINES

WEEK ENDING OCT. 17, 1986

##### CHANGES/UP

None

##### CHANGES/DOWN

None

##### DRUGS INDEX

The Drugs & Fine Chemicals index reflects the prices of 10 representative materials in this sector and the quantity of each produced in 1985.

Oct. 17, 1986	211.16
Oct. 10, 1986	211.16
Sept. 19, 1986	211.16
Oct. 18, 1985	211.16

Chemical Prices Start on Page 36

per pound, active, for concentrated 12 1/2 percent solution, and between \$3.75 and \$4.25 per pound for powder, depending on quantity.

**AMPHOTERIC ACRYLIC RESIN** — National Starch & Chemical Corporation is initiating a 3.5 percent price hike for "Amphomer," the company's amphoteric acrylic resin. The new price will be \$3.52 per pound, in truckload quantities, effective October 20.

A spokesman says the increase is needed to reflect cost increases for raw materials and certain operating expenses. This is the first increase for this product, used in hair sprays and cosmetics, since early 1984.

**SACCHARIN** — The saccharin market has stabilized in 1986, agree importers and PMC Specialties, the only domestic source of the product. Last year was characterized by inventory readjustments.

A spokesman for PMC says that pricing is depressed, but may have reached a low point. Prices for sodium saccharin are said to range from \$2.50 to \$2.75 per pound. One source notes that some sodium saccharin can be bought for less, while another says that other grades are priced slightly higher.

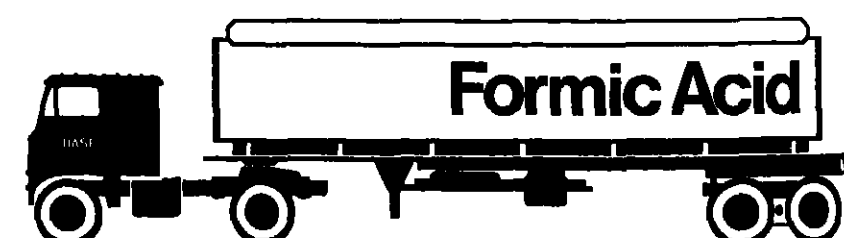
Imports are down about 14 percent compared to last year (880,000 pounds versus 1.03

### DRUG & FINE CHEMICAL EXPORTS: AUGUST

BUREAU OF CENSUS FIGURES ON THE KEY DRUGS.

	AUGUST	AUGUST	JULY	JULY
	QUANTITY	\$ VALUE	QUANTITY	\$ VALUE
Antibiotics:				
Ampicillin and salts, bulk	238,888	2,894,129	28,729	1,289,722
Erythromycin	73,180	7,180,884	24,488	2,618,988
Penicillin G	1,889,125	1,837,428	15,528,582	1,428,583
Penicillin V, bulk	80,351	3,501,127	188,149	3,781,029
Tetracycline	2,896	4,388,819	1,275	1,502,884
Aspirin	234,515	379,402	234,308	437,388
Caffeine and deriv.	84,082	212,616	8,400	41,480
Cholic acid	436,865	437,782	919,877	1,043,812
Cyan alkaloide and deriv.	2,076	221,672	248	27,917
Homocysteine				
Corticosteroids, nepi	10,486	6,987,093	5,488	4,928,618
Nonsteroid hormones	8,429	1,839,084	10,881	2,953,980
Prednisolone and salts	4,588	4,587,089	1,889	2,783,708
Steroid hormones and synthetics	126,618	4,472,703	10,182	2,242,238
Sulfonamides, bulk	79,487	1,148,719	78,846	1,017,814
Vitamin:				
Ascorbic Acid	51,158	245,881	191,888	733,718
Vitamin A and Pro-vitamin A, bulk	75,320	84,281	108,888	618,988
Vitamin B (thiamine)	2,822	40,817	1,345	8,830
Vitamin B12	4,184	87,880	1,401	18,334
Vitamin E	52,803	880,880	84,343	988,010
D and O panthothonic acid	4,991	7,288	5,845	22,880
Niacin and niacinamide	20,649	478,782	55,722	198,488
Vitamin, nepi	282,594	718,783	221,810	1,411,887

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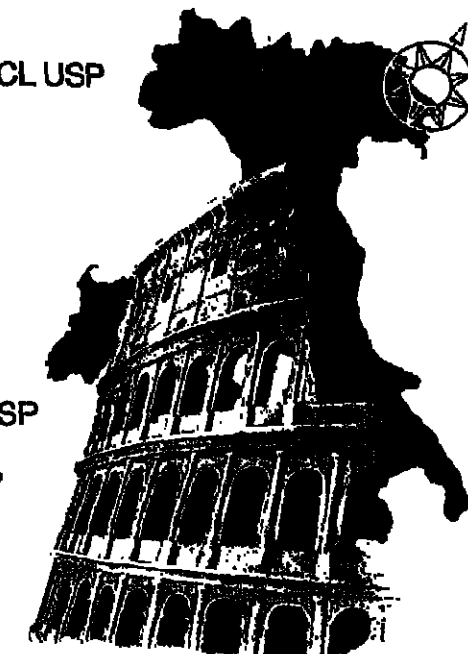
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## DRUGS & FINE CHEMS

million pounds). Sources claim this is because of the falling US dollar.

Sources also say that because of the falling dollar, importers cannot undercut the US market, due to increased expenses. At the same time, they cannot raise pricing, because PMC is said to be very competitive.

Sources do not expect price changes until 1987.

Demand within the soft drink segment continues to fall, but one source believes demand is growing for saccharin as an intermediate in agricultural products. Another source thinks saccharin has potential in this area, but adds it is too early to tell.

**TARTARIC ACID** — The US market awaits the November European grape har-

vest amid firm pricing and weak demand, according to importers.

One importer explains these contradictory phenomena by noting that while demand is weak in the US, the foreign suppliers of the material continue to charge high prices, because of increased raw material costs. So, says the importer, although US prices have not risen during the past few months, they have not fallen from the high level reached early in the year, when prices rose between 15 and 30 percent (CMR, 4/14/86, pg. 18). As for lower-than-usual demand, most importers have no explanation, but one mentions that buyers are switching to citric acid at an increased rate.

Pricing is between \$1.25 and \$1.35 per pound. Some importers say the \$1.35 price is about average and that \$1.40 is now uncommon.

Players are cautious about speculating on the upcoming crop. Last year, worldwide shortages led to rapid firming for tartaric acid, as well as other tartrates. These products are by-products of wine-making. While surveyed importers do not expect another bad crop, a spokeswoman for Wines of Spain predicts that, while Spain's crop should be of good quality, it will probably yield about 15 percent less than 1985's crop. Spain is a major source of tartrates.

**VITAMIN E** — Eisai USA, Inc., is raising its price for synthetic vitamin E, effective November 1.

According to a spokesman, Eisai's price will increase to \$20.50 per kilogram. The spokesman attributes the increase to the weakening US dollar. Eisai brings its material to the US from Japan.

**WHITENING AGENTS** — The Dyestuffs & Chemicals Division of Ciba-Geigy is announcing a 5 percent price increase on "Tinopal" fluorescent whitening agents to be effective November 17, 1986. The increase, the company says, is a direct result of further increases in the cost of their raw material, para-nitrotoluene which is used in the manufacture of the major CC/DAS whiteners used by the detergent industry in the US.

## Chemical Industry

Continued from Page 7

sign investment, and ineffective protection of intellectual property rights.

If the US cannot negotiate a final agreement that significantly improves the nation's trade balance, expands export opportunities, and reduces unfair import competition, he said the US must be prepared to reject the deal.

Mr. Lang noted that at the end of the last round of GATT (General Agreement on Tar-

iffs & Trade) negotiations, the US was the largest creditor nation in the world in terms of investments held abroad compared to foreign investments in the US.

In 1985, he pointed out, the US became a debtor nation and by the end of the year had become the world's largest debtor nation with a debt exceeding \$107 billion.

"The message here is to commit only to signing the final agreement if it is clearly in our economic interests to do so. If it is a bad deal, we must be prepared to walk away from it," said Mr. Lang.

He also said it is critically important that the chemical industry and top company executives participate actively in the negotiations, which are expected to last for four or five years.

Mr. Lang questioned whether top management fully understands the potential long-term impact the new GATT round could have on chemical manufacturers.

"They may well not recognize that one of the major impacts of a tariff cut, of say, 5 percent is not in the increased volume of imports which may result, but in the fact that a domestic manufacturer, in order to hold its customers, may have to meet a 5 percent lower import price — which may drop earnings on that product by 50 percent or more," he explained.

"So it isn't just that imports may go up a little bit as the result of concessions, and I sometimes wonder if top management, which tends to talk about trade policy in black or white, free trade versus protectionism, needs to adopt a bit more pragmatism as we go into these talks," Mr. Lang added.



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## Cal Bio Shifts On Its Offering

California Biotechnology Inc. announced it has filed an amendment to its statement with the Securities & Exchange Commission for an exchange offer to be made to Biotechnology Research Partners Ltd., a research and development partnership organized by California Biotechnology in 1982.

The offer would consist of two-share units of Cal Bio securities that include a warrant to purchase one share of Cal Bio common stock and an as yet to be determined amount of cash. The warrant would remain part of the unit until an undetermined date in 1987.

If all 2,492 outstanding units are tendered in the exchange, the offer would include a unit total of 2 to 2.5 million shares of common stock, warrants to purchase 1 to 1.25 million shares, and an estimated payment of \$4 million in cash. The final terms and conditions of the exchange are expected to be established by Cal Bio in November.

Once the registration statement relating to the securities that has been filed with the SEC becomes effective, the securities can be sold and offers to buy accepted.

California Biotechnology, Inc. develops

human health care products through emphasis on the discovery of molecules central to the disease process and the development of therapeutic and diagnostic products derived from the structure and function of these molecules.

## AIDS Trial Planned For Early 1987

The first human trial of Viral Technologies Inc.'s potential AIDS vaccine will be conducted by Institute for Immunological Disorders, it was announced last week.

Viral Technologies, Inc., is a joint venture between Interleukin-2, Inc., and Alpha 1 Biomedicals, Inc. Institute for Immunological Disorders lays claim to being the nation's first hospital devoted to AIDS research.

The trial is scheduled to begin early next year, pending the receipt of an investigational new drug (IND) permit from Food & Drug Administration. An IND application is expected to be filed with FDA by the first quarter of 1987.

Interleukin-2 says recent animal studies have demonstrated that rabbits administered with the prototype vaccine generate antibodies that, in vitro, neutralize the HTLV-III/LAV retrovirus (associated with AIDS) and block its replication. Additional studies in primates are currently being performed.

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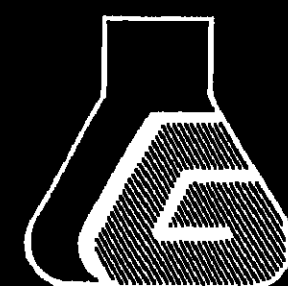
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## Hazardous Material Information Held Varying Throughout Country

Emergency planning and training for incidents involving hazardous materials varies widely throughout the country, according to a report submitted to Congress last week.

The Congressional Task Force on Toxic Emergencies studied the degree of specialized training and extent of emergency planning for hazardous materials incidents on both the state and local levels. A survey was conducted to gather information from fire-fighting personnel, police departments, state and local officials, and companies that handle hazardous materials.

The survey findings indicate that the level of preparedness varies greatly, even within the same state. While most fire departments responding to the survey said that their emergency plans included some provisions for hazardous materials emergencies, less than half of the more than 20,000 firefighters represented by the responding departments

had received training for handling these incidents.

Police officers, who may also be the first to respond to the scene of an incident, were reported to have far less training in contending with hazardous materials incidents.

The purchase of specialized equipment was also a problem for many fire departments. Protective clothing and breathing apparatus that shield firefighters from the health hazards posed by hazardous materials are expensive. To be prepared for any likely incident requires a variety of equipment to control different commodities which few of the fire or police departments have been able to acquire.

The task force, formed in July 1985, is a unit of the Congressional Environmental and Energy Study Conference, the largest legislative service organization of Congress.

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## Dioxin-Cancer Link Dispute Grows at the Federal Level

A top government researcher says dioxin poses no major human health threat, but other scientists at an international conference maintain that proof of the toxic chemical's danger "grows and grows."

The dispute came during the final session of a four-day international symposium of the world's leading dioxin researchers and reflected a split in the scientific community over claims that dioxins cause a range of medical and psychological disorders.

Dioxin, produced in chemical manufacturing and waste incinerators, is one of the most toxic substances known to man and has been found in a wide number of industrial and residential contaminations.

Chemical plant workers and people living near dioxin-contaminated sites have blamed it for ailments ranging from severe acne and insomnia to cancer, as have US military veterans exposed to the herbicide Agent Orange, used in Vietnam as a jungle defoliant.

But Barclay Shepard, director of the US Veterans Administration's Agent Orange Projects Office, told the conference the most recent studies have failed to show a link between dioxin and reported ailments.

He said "accumulating evidence," including some new V.A. studies, shows dioxin exposure does not heighten the risk of contracting a rare cancer known as soft-tissue sarcoma, and that "occupational exposure, including military service, does not appear to hold a major health risk."

Mr. Shepard was challenged by other researchers who criticized the data he cited as insufficient and noted other studies pre-

sented during the conference they said clearly indicated a connection. "The circumstantial evidence grows and grows," said Peter C. Kahn, a Rutgers University researcher. "I do not see how you can discount that."

Another US government researcher, Paul Stehr-Green of the Federal Centers for Disease Control, called some of Mr. Shepard's conclusions "a bit premature."

Although dioxin has been proven as a potent cause of cancer and other disorders in animals, numerous scientific commissions as well as the US government contend the relationship has not been shown in human beings. Only in the last three years have scientific advances enabled accurate human measurement.

The government also holds that because dioxins have been found in nearly all Americans due to environmental pollutants, there is no adequate test to prove Agent Orange responsible for the veterans' complaints.

At stake are hundreds of millions of dollars in claims by thousands of veterans who blame Agent Orange for disabilities.

Vietnam, which was represented at the conference for the first time this year, also claims massive lasting environmental damage.

Two studies disclosed at the conference, one by the Centers for Disease Control on dioxin-exposed Missouri residents and the other by Mr. Kahn on New Jersey Vietnam veterans, showed substantially higher dioxin levels in the bodies of people heavily exposed than in those of people with so-called "background" levels.

## Heubach Inc. Claims A Pigment Breakthrough

Heubach, Inc., a Newark, N.J., pigment maker, claims to have made a breakthrough in inorganic pigment technology that will significantly reduce dust hazards in the production of paint, ink and plastics without requiring formulation changes.

"Chrome yellow and molybdate orange make up the highest-value pigment types of the more than 50 pigment types offered to paint, plastic and ink makers," says Dave Waldron, Heubach's business manager for these pigments.

"As of this year an estimated one-third of all lead chromate volume in the United States has been replaced at a cost burden of \$1 billion to \$2 billion, which has been passed on to consumers in the last few years. By reducing inorganic pigment dusts by as much as 90 percent, the new technology may enable end users to avoid this huge cost burden," Mr. Waldron says.

"What is remarkable about this development is that it is achieved by altering the electrostatic charge on a pigment's surface and does not in any way require changes in formulations in which the pigment is used," says Bill Arnheim, Heubach's vice-president for R&D, who led the scientific staff in developing the new technology.

Extensive laboratory and field tests confirmed that gloss and color strength are not affected by the low-dust treatment, the company says.

The development of the improved pig-

ments was accomplished much more rapidly because of the use of a new dust testing appliance developed by Heubach in Germany, the firm adds.

"Chrome yellow, zinc chromate, and molybdate chrome orange, thus far, are the only pigments that have undergone the new electrostat process," says Dr. Wriede. "Plans call for the gradual expansion of the list of commercially available treated products."

Eventually, the company says treated products will include the organic pigments that Heubach has been making since the company purchased the facilities and colorant line of E.I. du Pont de Nemours Co. two years ago.

"We expect the low-dust development to reverse the trend away from chromate pigments that has resulted from the need to meet OSHA dust restrictions," says Mr. Waldron. "The trend has been toward the use of organic replacements, which have been considerably more costly and generally less satisfactory in performance."

For the production of the new low-dust pigments an expansion/modernization of Heubach, Inc.'s inorganic pigment division has been completed and is on stream. The modernization included the installation of the "Electrostat" unit, completion of a 20-million-gallon-per-day waste water treatment facility, along with a 20-percent increase in capacity for chrome yellow and molybdate orange pigments.

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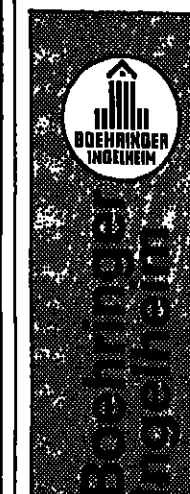
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## CSMA Has Established Household Products Unit

In response to the growing concern about the health and environmental issues surrounding the disposal of household waste, Chemical Specialties Manufacturers Association has established an information resource and referral center on the proper disposal of household products.

CSMA President Ralph Engel says his group, which represents the major manufacturers of packaged household consumer products as well as other chemical specialty products, decided to set up the Household Products Disposal Council to respond to some confusion and concern at the community and state level about the possible dangers of household waste.

"With so much contradictory information and misinformation being circulated, we want to get the facts out about proper disposal of household waste and what materials may need special care," says Mr. Engel. "The best protection for our environment is an aware and informed public."

Dr. Gary S. Moore, chairman of the environmental science program at the University of Massachusetts (Amherst) School of Public Health, and a consultant to the newly formed council, says household products enter the environment in such small quantities and concentrations that they pose little environmental hazard.

"The disposal of household chemicals is not a hazardous waste issue," says Dr. Moore. "The upgrading of landfills and improved

recycling efforts will substantially reduce any potential environmental risks associated with the disposal of most household chemicals."

Treating household products as hazardous wastes, such as requiring disposal at facilities licensed under the Resource Conservation and Recovery Act, would confront consumers with "the dilemma of paying enormously exaggerated costs with no guarantee of proper disposal or protection of groundwater," says Dr. Moore.

He says the costs of analysis and disposal on collection days are \$180 per barrel or \$3.20 per gallon, compared to a 14-cent-per-gallon cost in a municipal landfill, with a \$38-per-ton tipping fee.

"The environmental risk is not from disposal of household chemicals, but from the overwhelming preponderance of industrial, commercial and domestic refuse placed in unlined landfills without leachate treatment," says Dr. Moore.

He adds that much of the problem will be resolved as communities are required by RCRA and new state regulations to upgrade disposal facilities.

Dr. Robert M. Etter, vice president in research and development for S.C. Johnson & Son Inc., says CSMA supports voluntary collection days for those materials that may pose environmental hazards, such as pesticides, used motor oil, gasoline and kerosene, some solvents and paint products, ammunition, and chemical and photographic materials.

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## HEAVY & AG CHEMICALS

### Sulfur Shift

Continued from Page 5  
drawdown of 2.5 to 2.9 million tons per year, enough, based on the company's estimates, for less than two more years of stockpile use.

A spokesman for Canusulf, the Canadian sulfur export association, feels it is hard to be this specific about stockpile exhaustion. He notes that different stockpiles are owned by different companies and are exhausted at different rates, depending on individual producer plans.

He says demand for Canadian sulfur in coming years is also a matter of debate, being influenced by a number of factors. Phosphoric acid, for fertilizer production, is the product's main end use, and the future of this market is uncertain, given continued world grain oversupply. US phosphate production is down considerably this year and continued increases in world phosphate output are questionable, he feels.

Other question marks involve potential output in USSR, Iran and Iraq. Both Iran and Iraq, according to one observer, have the potential to produce up to one million tons per year of elemental sulfur, although actual output is at present considerably lower. More importantly, sour gas wells in the Astrakhan region of USSR are expected to have a potential nameplate capacity of 3.7 million tons per year by the time they are on stream in 1988.

### OUTPUT LEVELS

Actual output levels for these wells remain to be seen. AER, for instance, sees output from these wells as closer to 1.2 or 1.3 million tons per year, the limiting factor being variations in the wells' hydrogen sulfide content. Moreover, says AER, much of this will likely be consumed internally in phosphoric acid production.

In the meantime, efforts are being made in Canada to refine basepad sulfur up to standard market quality. Most notable of these plans is Canterra Energy's 8,000 metric ton per month decontamination plant slated for March start-up in Ram River, Alberta.

Initially, Canterra will be cleaning its own Ram River stockpile for sale on the world market. It eventually intends to offer its service to other sulfur producers, most likely on a tolling basis.

Other concerns are planning similar clean-up facilities, but for the most part do not own sulfur stockpiles and are looking instead to buy contaminated product and sell the purified material on the open market. One source feels Canadian sulfur producers may be wary of selling basepad sulfur only to find it competing with their own recovered product.

Prices for Canadian sulfur are somewhat weaker in the second half of the year. First half export contracts, say sources, were nominally at about \$135 per ton, with some material actually moving as high as the low-\$140-per-ton range. This half, however, contracts are closer to \$130 per ton, with little material being sold at higher prices. The decline is attributable mainly to a softer world market.

Observers expect prices to remain at these levels, and perhaps even slip a few dollars, until the end of the year. Through 1987, how-

ever, a slow but steady price increase is expected as the market anticipates stock depletion. Some market followers expect sharp increases once full depletion of Canadian stockpiles is evident. Prices in 1988 could break \$200 per ton, says one source.

Canadian exports to the US are down considerably this year. Through August, according to Bureau of Census, 399,000 tons of Canadian sulfur have been exported to the US, as

### PRICES TRENDLINES

WEEK ENDING OCT. 17, 1986

### CHANGES/UP

None

### CHANGES/DOWN

None

### HEAVY & AG INDEX

The Heavy & Ag Chemicals index reflects the prices of 18 representative materials in this sector and the quantity of each produced in 1985.

Oct. 17, 1986	113.69
Oct. 10, 1986	113.69
Sept. 10, 1986	113.69
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Chemical Prices Start on Page 38

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## HEAVY CHEMICALS

being accepted by customers, with \$10 per ton being both the average and the most commonly noted figure.

Pockets of dissension exist, however. One distributor notes that the Philadelphia market is in a state of some disarray due to a shipment of distressed material. This source says the product, amounting to between two and three thousand tons, was inadvertently put in tanks without heating capacity and is in danger of freezing for the winter. The owner's desire to sell it has at least postponed the increase's success in that area, he says.

Also, the Northeast market is said to be resistant to the increase, as import material is keeping prices down.

Gulf Coast and Southeast prices seem to have responded well, with the \$10 per ton

average increase considered by most to be implemented. This puts caustic soda selling prices in that region in the \$90-to-\$100-per-ton range for many larger buyers. Some, however, are protected by contracts until the end of the year.

**ALUMINUM SULFATE** — General Alum & Chemical Corporation says it is increasing its price for liquid alum by \$8 per dry ton. The increase is effective November 1 or as contracts allow and is for material produced at the company's Indianapolis, Ind., and Toledo, Ohio, facilities.

The announcement follows similar increases by General Chemical and Stauffer Chemical (CMR, 10/13/86, pg. 31).

## METALS & MINERALS

**NICKEL** — Falconbridge Limited says that

in response to continuing low prices and world oversupply for nickel, it is scheduling production shutdowns for December 24 through January 4, 1987, and for July and August 1987.

A spokesman explains that pricing has reached its lowest level since the 1930's, in constant 1986 dollars. Current price is about \$1.67 per pound. As recently as 1980, the price was \$4.30 per pound.

The spokesman says that because of the complexities involved, opening a mine usually occurs about 10 years after the initial decision. During the late 1960's and through the 1970's, he says, nickel was a very profitable item to be involved in, and companies were making money "hand over fist."

Consequently, several other companies worldwide decided to start nickel businesses, including many developing third-world countries.

## GAF Not Buying

Continued from Page 9

total \$29.1 million, the highest in the corporation's history.

As the largest competitor to BASF Corporation in the acetylene chemical business, GAF has 60 percent of its acetylene chemical sales in cosmetics and toiletries, pharmaceuticals and engineering plastics, he noted.

GAF has the broadest line of surfactants in the business, he said, enhanced recently by the purchase of the surfactant business of Borg-Warner Corporation in South Carolina.

In the roofing business, another GAF executive said, the company has been raising its research and development budget 20 percent per year over the past five years and is making a comparable increase this year. GAF is also the best integrated of roofing material producers and has the largest share of the residential market, it was stated.

Next year, GAF will introduce a lightweight laminated shingle in a market that totals about \$100 million and has been growing 20 percent per year, the GAF executive said.

## Chemical Test Detects Arsonists

A technique developed at the Commerce Department's National Bureau of Standards (NBS) shows promise in detecting arson by chemically analyzing soot samples for by-products of the materials used to start the fires.

In experiments conducted at the Bureau's Gaithersburg, Md., facility, NBS researchers have found that the accelerators used by many arsonists to start fires — hydrocarbon-based liquids such as gasoline, kerosene, and paint thinner — produce specific compounds "daughter products" that become part of the soot.

Known as polycyclic aromatic hydrocarbons (PAH's), these products can be removed by solvent extraction from soot deposits sampled at the scene of a fire. NBS scientists use gas chromatography (GC) to detect the presence of PAH's.

The analytical test is "a very simple test that could be easily used as a forensic device," says Stephen N. Chesler, an NBS chemist and chief scientist for the project. It adds, however, that the method is experimental at this point and needs further investigation.

### SOOT ANALYSIS

Mr. Chesler's research began seven years ago at the urging of the Law Enforcement Standards Laboratory, a branch of NBS. The initial goal was simply to analyze soot for the presence of gasoline and other accelerators. Early tests using the GC technique were unsuccessful.

The next step was to use the same technique to burn household materials and as wood, synthetic fibers (rugs), and plastic under controlled laboratory conditions.

Upon analysis of the soot from these tests, Mr. Chesler and his colleagues noticed that PAH's were showing up in easily detectable quantities. When the same household materials were burned without using accelerators, only minimal amounts of PAH's were present — "not enough to interfere with the test," Chesler says.

The technique appeared to be working in the lab, but the question remained: How would it perform in an actual fire? To find out, Mr. Chesler enlisted help in gathering on-location soot samples.

He asked forensic chemists at the Bureau of Alcohol, Tobacco and Firearms (BATF) to collect soot residues from the fires that agency personnel start for training purposes in abandoned residential buildings. Only a portion of the fires were initiated with accelerators.

NBS' job was to determine which materials were burned in the fires.

Later, from resulting analyses of the soot samples, NBS researchers succeeded in identifying all the accelerant started fires. Despite its apparent promise, the test for detection tool, Mr. Chesler says, the method needs "considerable work" before it could be used as court evidence.

## Wharton Panel Finds Trend To High-Cost Antihypertensives

Physicians who fail to consider diuretics first when treating high blood pressure may be helping to "break the bank" on prescription costs, according to experts at a medical symposium sponsored in Washington by the Leonard Davis Institute of Health Economics at the Wharton School.

Presenters described research findings suggesting a trend toward newer and substantially more expensive antihypertensive agents that runs counter to national cost-control initiatives for health care.

Despite the increased cost of the newer medicines, the researchers noted, there is no evidence of added clinical benefit for most patients with mild to moderate hypertension.

A nationwide Gallup survey of physicians released at the symposium reports more than two-thirds of practicing doctors have changed their treatment patterns for their hypertensive patients in the last few years.

### NEWER AND COSTLIER

Of those making changes, eight out of ten physicians changed the type of medication they prescribe. Almost three-quarters of whom these revealed a distinct trend to newer and costlier prescriptions.

One of the newest and most expensive antihypertensive agents is more than four times as expensive as the leading diuretic.

Dr. William Stason, of the Harvard School of Public Health and co-moderator of the symposium, utilized national data to estimate the potential impact of these new therapies for patients with mild to moderate hypertension now receiving diuretic therapy.

"A wholesale shift to the newer therapies could add \$1 billion or more annually to national costs for high blood pressure treatment," says Dr. Stason.

Symposium attendees also heard the findings of a Vanderbilt study of Medicaid patients that suggested the emergence of a trend toward the newer therapies.

In 1982 and 1983 the studies showed clear adherence to the traditional stepped-care guidelines in the initial treatment of mild to moderate hypertension recommended by the joint national committee on detection, evaluation and treatment of high blood pressure.

However, more recent data through 1986 showed a four-fold increase in the use of two new costlier categories of drugs — angiotensin converting enzyme (ACE) inhibitors and calcium channel blockers.

### FDA APPROVAL

The latter category is still pending FDA approval as therapy for hypertension, but that approval is expected shortly, according to industry sources.

In the same period the number of Medicaid prescriptions for diuretics decreased gradually. These findings were echoed in the Gallup survey, where significant physician interest in heavily promoted newer products, including beta blockers, was expressed.

In 1977, the first joint national committee report on detection, evaluation and treatment of high blood pressure was issued. It was reaffirmed and modified in 1980 and again in 1984.

However, the guidelines have been perceived by some physicians as "cookbook medicine" that does not recognize the full importance of a case-by-case review and determination for each patient. The Gallup survey uncovered disenchantment with the JNC "stepped-care" approach as the most commonly reported non-drug related cause for changing treatment patterns among doctors.

"The visibility generated by new product introductions that have criticized the JNC has evidently taken its toll," says Dr. Marvin Moser, of the Yale University School of Medicine and a presenter at the symposium.

"Although a wider selection of drugs is always an advantage, particularly for problematic cases, most patients can continue to be treated very effectively at significant cost savings by following the JNC guidelines," Dr. Moser concludes.

"No one in medicine believes any one drug category can be prescribed routinely for every patient diagnosed with mild to moderate hypertension," explains Dr. Ray Gifford, of the Cleveland Foundation, in reaction to the findings.

But general guidelines as set forth in the

JNC recommendation do have very important grounding in long-term efficacy studies, patient compliance, safety, and now clearly in cost-efficiency, emphasized Dr. Gifford, who helped establish the national high blood pressure education program which is part of the National Heart, Lung & Blood Institute (NHLBI).

There are an estimated 58 million Americans with high blood pressure, almost 90 percent of whom have mild to moderate hypertension.

Its treatment accounts for more office visits and prescriptions than any other ailment in the country. The direct costs for high blood pressure care in the US are estimated to be in excess of \$10 billion yearly.

"The sheer magnitude of care dispensed for the control of high blood pressure necessitates it be done with careful consideration to cost," remarked symposium co-moderator Dr. Mark Pauly, executive director of the Leonard Davis Institute of Health Economics at the Wharton School at the University of Pennsylvania.

"Placing great emphasis on subjective patient observations regarding 'quality of life' might cause an upward cost trend," cautions Dr. Pauly. "Quality of life can also be measured by the amount of money left in a patient's pocket."

Fully 88 percent of physicians polled claimed that their patients' ability to pay for their medication was an important factor in drug choice.

### NO REIMBURSEMENT

Also important, physicians surveyed generally reported their patients pay for their medication without reimbursement. One in four patients surveyed said that paying for high blood pressure medication was "somewhat" or "very much" of a problem.

"Only the small minority of patients whose hypertension cannot be successfully controlled or who are bothered by side effects need to be shifted through a progression of costlier therapeutic alternatives," offered symposium co-moderator Dr. William Stason, of the Harvard School of Public Health.

Despite the trend toward more expensive HBP drugs, physicians appear convinced of their increased sensitivity to the issue of cost: three in four doctors believe physicians are more sensitive to the cost of health treatment than they were in the past.

"Considering a 58 percent majority of patients are sufficiently astute to realize there is no direct relationship between how much a drug costs and how well it works, physician sensitivity to cost may be more than just efficient practice of medicine, it may also be prudent practice management to retain a strong doctor-patient relationship," Dr. Pauly concludes.

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## Nitrogen Dumping Case Pursued by Trade Agency

International Trade Commission says there is a reasonable indication that the nitrogen fertilizer industry in the US is being injured by imports of urea from three Eastern Bloc nations that are allegedly being sold at less than fair value.

The commission's 5-0 vote in favor of continuing the anti-dumping investigation came six weeks after a coalition of domestic nitrogen producers filed the complaint against East Germany, Romania and the Soviet Union.

The coalition's petition alleges that urea imports from these non-market economies are being dumped in the US, causing price depression which is "severely injuring" the domestic industry (See CMR, 7/21/86, pg. 3).

Urea imports from the Eastern Bloc have risen steadily since 1982, when they had a 2

percent share of the US market. In 1985, non-market economy imports accounted for 11 percent of the market. Another survey figure up to 18 percent, domestic producers allege.

In 1986, the three exporters have dumped urea to the US at prices as low as \$1 per short ton to a 167 percent to 270 percent below its fair market value, the US companies allege.

The petition was filed by Agrico Chemical Company, American Cyanamid Company, Fertilizer Industries, Inc., Farmland Industries, Inc., Fust Mississippi Corp., Mississippi Chemical Corp., Terra Chemicals International and W.R. Grace & Co.

A spokesman says the domestic industry sustained heavy losses in the first quarter of the year.



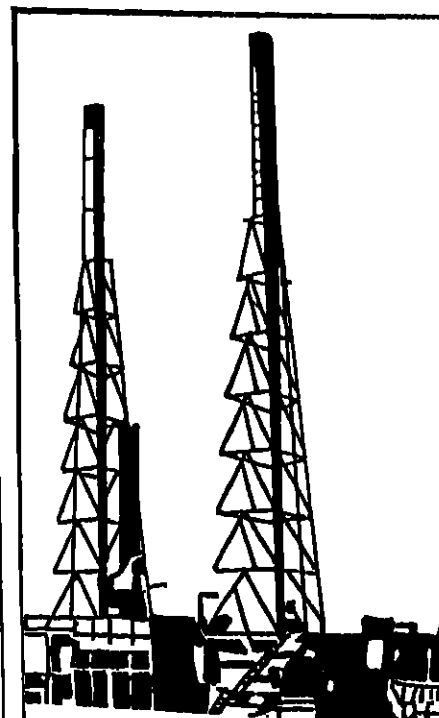
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## COATINGS & PLASTICS

### Polystyrene Price Increase Prompted by Move in Styrene

Responding to a new round of styrene price increases for November, at least one major polystyrene producer has responded in kind, in a bid to pass along higher raw material costs.

Styrene makers, strained by extremely tight supplies and encouraged by a strong polystyrene market, effected a series of price increases through September and October, raising monomer costs a total of 5 to 6 cents per pound.

Producers of polymer, facing sustained high demand and higher monomer costs, effected increases of their own this October, raising resin costs by 3 cents per pound. Currently, demand for polystyrene is better than it has been for some time.

Several major styrene producers are now proposing price increases to be effective November 1. So far, American Petrofina Inc., a subsidiary of Cosden Oil & Chemical Company, a major producer of polystyrene, has announced that it will be countering with a 3-cent-per-pound polymer increase.

Other producers have not yet announced any further price adjustments. So far, they have realized all of the October 1 price increase.

Supply and demand are said to be in balance, with operating rates close to capacity. Although the October increase succeeded, it is still not enough, one producer complains.

Currently, reflecting the October price increase, general purpose grades of polystyrene are selling for between 34 and 36 cents per pound; high impact grades sell for between 37 cents per pound and 38 cents per pound.

Current demand forecasts for the year call for the size of the total US market to grow by 8 percent to 9 percent this year.

Capacity utilization rates have increased since last month, when they were said to be between 90 percent and 95 percent of nameplate. Producers say the figure is now between 94 and 98 percent of the total.

### PRIME PIGMENTS

CHROME PIGMENTS — Producers of chrome yellow and green and molybdate orange pigments complain that the market is still weak, with current domestic capacity exceeding demand by at least 20 million pounds.

Although some describe plastic colorant applications as a "new channel" for the market, which may provide some relief, the spokesman for a major producer dismisses this as "an elaboration on a minor theme."

Demand for the lead-based pigments in the inks and coatings segment, the mainstay of the market for years, has been slowly disappearing as a result of environmental pressures; demand has been slipping at the rate of 10 percent per year for the past four years.

one producer reports, whittling the market down by at least 20 million pounds, so far.

Imports have devastated domestic pricing over the past few years, producers report. Although with a weaker dollar, they no longer play the role they once did in the US, they have left a real mark on selling prices. As one producer explains, the US market, bad as it is, is still the largest market for the pigments, and "everyone wants their small

### PRICES TRENDLINES

WEEK ENDING OCT. 17, 1986

#### CHANGES/UP

None

#### CHANGES/DOWN

None

#### COATINGS INDEX

The Coatings & Plastics index reflects the prices of 13 representative materials in this sector and the quantity of each produced in 1985.

Oct. 17, 1986	306.4
Oct. 10, 1986	306.4
Sept. 19, 1986	306.4
Oct. 18, 1985	306.4

Chemical Prices Start on Page 36

share." Wild discounting is reflected in the wide range of selling prices for chrome pigments. Chrome yellow, listed from \$1.09 to \$1.33 per pound, is being sold to some large volume customers for as little as 65c. per pound, one producer reports, while molybdate orange, listed at \$1.96 to \$2.35 per pound, is going for as low as 95c. per pound.

The overcapacity problem in the US mirrors a worldwide overcapacity problem. This year, domestic demand for the pigments is expected to fall to between 50 and 60 million pounds.

### PLASTIC MATERIALS

EPOXY RESINS — Reichhold Chemicals Inc. will be raising selling prices for its "Epotuf" epoxy resin products, effective October 16, the firm announced last week. Prices for diluents and hardeners will not be affected.

New prices for "Epotuf" liquid epoxies will be 4c.-per-pound higher than they are now, while those for solids will be 3c. per pound higher. Costs for solution grades will be between 2.5c. per pound and 3c. per pound higher, depending on grade.

Reichhold, the fourth largest producer of epoxy resins in the US, is the fourth to announce epoxy price increases this quarter. Shell Chemical Company, Dow Chemical

Continued on Page 35

## COATING & PIGMENT EXPORTS: AUGUST

BUREAU OF CENSUS FIGURES ON THE KEY PAINT MATERIALS.

	AUGUST '86	JULY '86
	QUANTITY	VALUE
Antimony compounds (NSPF)	82,280	105,460
Carbon black, including thermal	8,797,344	4,505,826
Chromium pigments (1)	378,444	986,789
Colors, lakes and toners (Cyclic)		
Concentrated dispersions	223,844	704,192
Yellow	141,788	384,872
Red	84,501	935,832
Violet	25,852	378,293
Blue	371,856	1,882,369
NSPF	828,889	3,286,340
Prepared paint and varnish driers	385,669	374,870
Prepared solvents and thinners	4,055,748	2,888,973
Lead oxides, nat., syn.	3,874,988	2,807,724
Lead oxides	67,353	11,388
Phthalate esters: Dioctyl phthalate	602,682	170,525
Other phthalates	34,405,334	3,842,597
Titanium dioxide	19,481,620	13,390,014
Zinc oxides	83,833	49,028
Zincum oxide	571,214	426,224

(1) Includes mixtures

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1-Bromooctane	Octyl Bromide
1-Bromononane	Nonyl Bromide
1-Bromodecane	Decyl Bromide
1-Bromoundecane	Undecyl Bromide
1-Bromododecane	Dodecyl Bromide
1-Bromotridecane	Tridecyl Bromide
1-Bromotetradecane	Tetradecyl Bromide
1-Bromopentadecane	Pentadecyl Bromide
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CHEMICAL MARKETING REPORTER

October 20, 1986

## PERFUMES & FLAVORINGS

### Cassia Oil Price Weakens With Oversupply, Demand On

Cassia oil imports are dwindling as supplies become increasingly available and consumption declines. Total US imports in 1984 were 189,207 pounds. In 1985 imports swelled to 554,191 pounds and the 1986 cassia oil imports through August totalled 296,971 pounds, with demand expected to slacken further. Prices have weakened along with the import decline, dropping last week from \$48 to \$54 per kilo cost and freight, New York to below \$40 per kilo, same basis.

1985 was a very favorable year for producers and "many Chinese got involved in speculation and brokering. It has been a very profitable business for them," says an essential oils importer. The consequence of such involvement was a substantial buildup of inventories and no demand to relieve it.

An essential oils broker concurs: "The sales in 1985 are still in stock and its driving offers even lower." Another industry source agrees, citing the price softening as an indication of oversupply. "The prices were very high but have been coming down in line with the imports."

According to the essential oils importer, the Chinese didn't anticipate the decline in buyer interest. "Though the interest in cassia oil in 1985 was to have a short lifespan, they continued to generate the material." Prices came down from a 1984 high of \$75 to \$80 per kilo and the Chinese producers felt the subsequent increase in US sales was due to the price decrease.

Another oils broker maintains that prices won't soften any further and that the present weakness is due to less than standard material being offered from Hong-Kong. Yet an importer considers it to be of the same quality as the material coming from mainland China, if not from the same producers.

#### CASSIA USE CHANGING

Sources report that demand is falling because the uses for cassia oil have been changing. "The main uses for cassia oil are in soft drinks and baked goods," says an industry source. "It is possible to refine natural benzaldehyde from the cinnamic acid found in cassia oil. Either the buyers who use the oil for this purpose are shying away from natural benzaldehyde altogether, or its being obtained from another intermediate." Natural benzaldehyde imparts the desired bitter almond flavor but is very expensive at around \$100 per kilo.

The reason cassia oil imports surged in 1985 was due to the lack of availability of true bitter almond oil. Some bitter almond oil that had been imported to the US was found to be toluene based, or synthetic benzaldehyde disguised as bitter almond oil. As a result, those buyers who wished to insure that their products were naturally flavored turned to cassia oil. "The need to be sure that one's product is not compromised," says one source, "sent people to the cassia oil even though it cost 10 times more than the bitter almond oil."

Bitter almond imports fell from a total of 261,122 pounds to a 1985 total of 112,540 pounds and a 1986 January through August figure of 8,413 pounds. None of the material was imported in May, July or August of this year. Its cost was around \$2, \$3 per pound.

Since neither imported bitter almond nor cassia oil are in current demand, buyers are turning to other sources. One industry source suggests domestic production.

#### PRICES TRENDLINE

WEEK ENDING OCT. 17, 1986

##### CHANGES/UP

Basal Oil, Madagascar, \$6 per lb.  
Camphor Oil, 25c. per lb.  
Chillies, Pakistan Dundercut, 5c. per lb.  
Cinnamon Leaf Oil, Ceylonese, 10c. per lb.  
Cummin Oil, \$12 per lb. shipped  
Oil Seed, Indian, 3-7c. per lb.  
Ginger, Jamaican #3, 10c. per lb.  
Nutmegs, Whole East Indian, 5c. per lb.  
Oregon, Mexican, 45-50c. per lb.  
Rosemary, Yugoslavian, 3c. per lb.  
Sage, Galamian, 5c. per lb.  
Sesame, Central American cleaned, 10c. per lb.  
Turmeric, Allepey 3-4", 2c. per lb.

##### CHANGES/DOWN

Bergamot Oil, Brazilinn, \$3 per lb.  
Caraway Seed, Dutch Recleaned, 1c. per lb.  
Cardamom Oil, \$10 per lb.  
Cassia Oil, Chinese, \$8-\$14 per kilo  
Cloveleaf Oil, Madagascar, 20c. per lb.  
Cummin Seed, 3-5c. per lb.  
Ginger Oil, Chinese and Indian, \$2.50 per lb.  
Lemongrass Oil, Guatemalan, 10c. per lb.  
Peppermint Oil, Indonesian, \$1.25 per lb.  
Spearmint Oil, Chinese 50%, 35c. per lb.  
Spearmint Oil, Natural, 50c. per lb.

#### PERFUMES INDEX

The Perfumes & Flavorings index reflects the prices of 11 representative materials in this sector and the quality of each supplied in 1985.

Oct. 17, 1986	714
Oct. 10, 1986	714
Sept. 12, 1986	714
Oct. 11, 1985	714

Chemical Prices Start on Page 38

bitter almond oil will increase rapidly. "Buyers will still have to pay a high price for the natural material. The question is if the material they'll settle on."

#### ESSENTIAL OILS

GINGER OIL. — Spot prices for Chinese and Indian ginger oil have fallen in the two weeks from \$25 per pound to \$20 per pound. Prices have softened due to supply from both points of origin, India and China.

"Last year Indian production was up," says an essential oils broker. "The crop is still evident in India and in inventories."

### SEED & SPICE IMPORTS: JULY

A SELECTION OF STATISTICS FROM THE BUREAU OF CENSUS.

	JULY	JUNE	1986 TO DATE	JULY
Caraway seed	822,110	448,385	4,723,147	822,110
Celery seed	325,382	176,824	2,401,606	325,382
Cinnamon, unground	192,402	70,191	1,447,010	192,402
Cloves	146,488	122,144	1,008,484	146,488
Coriander	482,047	402,673	3,647,684	482,047
Cumin seed	501,611	570,617	5,014,684	501,611
Fennel seed	483,210	287,584	2,583,634	483,210
Ginger root	894,405	555,630	5,000,000	894,405
Mustard seed, whole	7,877,770	6,725,852	62,984,940	7,877,770
Nutmegs, unground	501,309	287,183	2,583,634	501,309
Origano, whole	705,088	410,420	4,719,630	705,088
Paprika	736,247	1,234,982	10,538,735	736,247
Pepper, black, unground	10,348,808	10,895,048	86,173,878	10,348,808
Pepper, red, capsicum	1,884,210	2,021,948	10,591,017	1,884,210
Pepper, white, unground	485,211	208,284	3,535,488	485,211
Sage unground	86,240	80,644	1,005,484	86,240
Turnerite	229,743	229,840	1,988,872	229,743
Vanilla beans	972,421	785,190	1,848,872	972,421
	237,589	82,086	1,848,872	237,589

## PERFUMES & FLAVORS

and in the US. Though the raw material, gingerroot, has been steady and resisted softening, industry sources expect ginger oil prices to fall further. "It will depend on the new crop in India," says another broker. "If its very small, it could compensate for the oversupply and strengthen prices, otherwise the prices will remain soft."

An importer cites sales from early 1986 as behind the large domestic inventories. "A lot of buying took place about nine months ago, but business has been steady; no more than the regular offtake has left inventories depleted."

The Chinese ginger oil has been affected by what one source refers to as "internal conflicts." An essential oils importer sees the same situation: "The Chinese have been competing among themselves, offering lower and lower prices."

At the same time, sources don't envision any increased usage of ginger oil. "Prices aren't dropping because usages have decreased," says an essential oils broker. "If anything, demand has flattened out." The combination of oversupply and static demand, industry sources agree, will probably send spot prices down further, "perhaps to below \$20 per pound," says a broker.

#### SEEDS AND SPICES

MUSTARD SEED — Imports increased by over 1,200,000 pounds from June's total of 6,728,852 pounds to July's total of 7,977,770 pounds. The influx was due to arrivals of new crop shipments which have reportedly continued through August and September.

"There's a larger than expected crop on the market," says a spice broker, "and it brought prices down." Spot prices have declined gradually from mid-August to the present. Oriental mustard seed went from 25c. to 26c. per pound as of August 15 to 22c. per pound as of October 15. Canadian and US #1 mustard seed fell 2c. in the same period from 24c. per pound to 22c. per pound. Ground mustard also fell from 35c. to 30c. per pound.

"Although the price at which the farmers have to sell is at a loss," says a spice importer, "they have no choice but to put it on the market." The spice broker agrees: "The market is not elastic. It won't support these surpluses so the growers lose money."

## COATINGS & PLASTICS

Continued from Page 33

Corporation, have not made any moves.

Discounts had a pronounced effect on profit margins this year, producers complain. Prices for raw materials also went up this quarter. The increase represents an attempt to bridge the gap between list and selling values, producers say.

POLYETHYLENE — Producers report that prices for high-density, low-density and linear low-density polyethylene (HDPE, LDPE and LLDPE) have been firming this month, and the fourth quarter price increases are expected to hold.

Hikes of 5c. per pound for LDPE and LLDPE had been announced for August 1; contractual obligations and competitive pricing forced producers to delay the enforcement date until October 1, the effective date for the HDPE price increase. Producers of LDPE say that, to date, they have seen all of the increase in lower end markets, such as linear grade, and over 75 percent of the increase in extrusion grade segments, depending on the individual grade. Most accounts are now paying 29c. per pound to 30c. per pound for linear grade LDPE, one producer reports. Prices for butene comonomer LLDPE now stand between 29c. and 32c.

Inventory levels fell sharply from July through September, with production falling short of demand by almost 76 million pounds. Some production outages over the Summer are blamed, as several LDPE and LLDPE facilities were temporarily shut down.

Demand for HDPE has been high; through July, total demand increased 6.1 percent over last year's level, with exports up by almost 13 percent. Capacity utilization rate is said to be almost 100 percent. Spot outages

affected supplies through the summer.

POLYPROPYLENE FILM — Hercules Incorporated will increase prices for its lines of transparent oriented polypropylene film, effective November 17th. Depending on type and gauge, prices for the film, which has replaced cellophane as the predominant candy and baked-goods packaging material, will rise from 3 to 10 percent. Prices for opaque films, used to replace glycine in other packaging applications, will not be affected.

Adjusted costs for all gauges of Hercules' "HST", "T50X" and "T52X" film will be 7 percent higher, while selling prices for all gauges of its PVDC-coated, "BX31X" and "BX323" films will be 5 percent, and 3 percent higher, respectively. Tabs for its "B50X" 50-gauge film will be raised by 10 percent, and those for its 75 to 120-gauge "B50X" film by 7 percent.

Borden Chemical Company has also announced price increases of 7 percent and 10 percent on its general purpose and all grades of "Propanite" film, effective November 17th.



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CHEMICAL MARKETING REPORTER

35



**An index of weekly chemical market reports is on the back cover.**

Aluminum acetate, basic, dms., f.c.l. works.....	3.25	-
Aluminum chloride, anhyd., soln., 500-600 lb. dms., c.l., l.l. works, frt. equivd.....	.53	-
bulk, same basis.....	.48	-
semi-bulk bins, same basis.....	.62	-
Aluminum chloride, conc., soln., 32° brix, works.....	15.00	-
ret. dms., c.l., works.....	12.00	-
non-ret. dms., same basis.....	100 lb.	20.00
Aluminum formate, dibasic, liq. 8% $Al_2O_3$ l.l. works.....	.66	-
Aluminum hydrate (see Alumina, hydrated)		
Aluminum hydroxide, dried, grad. NF, 75-80 dms., c.l., l.l. works.....	2.75	3.60
Aluminum metal, 99.9% or more, 50-lb. pigs., 50,000-lb. lots, frt. eqd.....	.76	-
Aluminum oxide amorphous (see Alumina, catenated)		
Aluminum paste, feeding grade, std., lining, 2,400 lb. lots, divd.....	1.40	-
lining, extra fine, same basis.....	1.89	2.14
Aluminum phenolics (onets, purif., 100-lb. dms., l.l. works.....	6.48	-
Aluminum powder, feeding grade, std., lining, 2,400 lb. lots, divd.....	3.17	-
extra fine, lining, same basis.....	4.04	-
Aluminum stearate, bgs., c.l., l.l. works.....	1.28	1.37
Aluminum sulfate, conc., grad., 100 lb. bgs., c.l. works, frt. equivd, basis 17% $Al_2O_3$ East and Gulf Coasts.....	208.00	-
West Coast.....	220.80	-
lq. tanks, N.E. same basis.....	145.00	-
ret. fine, dry, bgs., c.l., l.l. works.....	300.00	-
lq. tanks, same basis.....	228.00	268.00
Aluminum sulfate, USP, gran., dms. 100-lb. lots, frt. equivd, basis 17% $Al_2O_3$ East and Gulf Coasts.....	-	337
ret. fine, dry, bgs., c.l., l.l. works.....	2.12	-
tech., l.l. same basis.....	1.68	-
p-Aminobenzoic acid, 1,000 lb. or more, dms., l.o.b. works.....	9.80	10.10
2-Amino-2-chloroacetic acid, 1,000 lb. or more, frt. alk. b. collected.....	5.78	-
N-Aminoethyl ethanolamine, tanks, frt. collected.....	1.30% <sup>1</sup>	-
N-Aminoethyl pipazine, tanks, l.o.b., frt. collected.....	1.05% <sup>2</sup>	-
2-Amino-2-ethyl-1,3-propanediol dms., l.l. f.b. works.....	1.82	-

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ASTA/American Society for Testing a Materials	crys./crystalline	lb./fiber
	ca./cans	l.b.s./free on board
	caa./cans	f.s./freeing point
	cya./cylinders	ft./feight
b/beta	d./dextro	g./gram
Ba/Saure	di./double	gal./gallon
b/ba./barrel	den./denatured	g.p./general purpose
b.p./boiling point	dis.-dis./disintegratively distilled	gran./granular
b.p./boils	d./dextro-levo	grd./ground
b.c./boils	dis./distilled	
b.c./boils	dis./distilled	h./hydralic boiling point
b.p./boiling point	dis./distilled	imp./imported
b.p./boils phosphate of lime	div./delivered	
b.p./boiling range	dm./drums	
b.c./boils	dom./domestic	

per lb. higher.		
Ammonium persulfate, 225-lb. dms.		
24,000 lbs. or more, f.o.b.		
works.	.58	-
55-lb. bgs., same basis	.56½	-
Ammonium phosphate (see OIL and monommonium phosphates)		
Ammonium allourolite, dms. c.i., l.t., works.	.304	-
Ammonium sulfate, lg. gran., bulk, c.i., works.	80.00	90.00
and, corn, bulk, f.o.b. works.	ton	80.00
ton	100.00	70.00
55-lb. c.i., works	105.00	125.00
Ammonium sulfate, lg., 40-44% water, 100% basis, tr. equald., ton	460.00	-
Ammonium sulfoacetate, tech. (see Ammonium thioacetate).		
Ammonium thioacetate, tech., cryst. bgs., c.i., works	1.02	-
tech. soln., 50%, tanks, tr. equald., lb.	.93	-
Ammonium thiocarbamate, photophosph., 50%, tanks, l. w. equald., lb.	.13	-
Ammonium zincory carbonate, soln., bulk.	.72	-
Amyl acetate, primary mixed isomers, tanks, dms.	.57	-
Amyl alcohol, primary mixed isomers, tanks, tr. ald.	.46½	-
Amyl chloromethyl ether, dms.	2.35	2.50
p-alk-Amylphenol, bulk, works	.91	1.03
Amyrils dms.	11.50	12.25
Anethole, tech., dms.	10.20	-
USP, dms.	3.65	4.00
Angica rectol. oil, bot.	700.00	-
Aniline, tanks, f.o.b.	.33	36½
Antidote of		
Bacitracin, USP, non-sterile, cns. billion units or more		6.30
Barbitol, NF, 50-kilo dms.		22.50
Barbitol-alcohol, NF, 50-kilo dms.		23.00
Barite, divd., Southern, oil-color, coarse, bgs., c.i., 100-mib dms.		.06
water-grd., white, bgs., c.i., f.o.b. works		.13
unitesched, extra-fine, pigment grade, c.i., l.t. works		180.00
Barium carbonate, precip., bgs., works, tr. equald.		.25
bgs., same basis		.10
fine grade, bgs., same basis		610.00
Barium chloride, 100-lb. dms., 1-10 dms. lots, works		1.04
Barium chlorate, tech., cryst. bgs., c.i., works		670.00
anhyd. drums, c.i., same basis ton		490.00
Darium chloride, purif., cryst. 400-lb. dms., works		3.78
monomethoxy, 55-lb. bgs., c.i.		46.00
octahydrate, cryst. bgs., same basis.		33.00
Barium nitrate, 100-lb. bgs., l.t.		21.50

Bacitracin, USP, non-sterile, one billion units or more .....	6.30
Barbital, NF, 50-kilo dms. ....	22.50
Barbital-sodium, NF, 50-kilo dms. divd. ....	23.00
Barite, dry-grd., Southern, oil-color, conc. bgs., c.l. 6 to 10 mm. water-grd., white, bgs., c.l. 1-2.5 works .....	.09
unbleached, extra-line, pigment grade, c.l. 1 to 2.5 works .....	.13
Barium carbonate, barite, c.l. works, fr. equald. ....	100.00
bgs., same basis .....	.25
photo grade, bgs., same basis ten tons, 100 lbs. works .....	257 1/2
lots, works .....	1.04
Barium hydroxide, tech., cryst., bgs., c.l. works .....	470.00
anhyd. bgs., c.l. 100 lbs. same basis .....	690.00
Darium ethoxide, purifi., cryst. 400-lb. dms., works .....	3.78
monohydrate, 65-lb. bgs., c.l. 1 to 1.5 works .....	46.00
oxyhydrate, cryst., bgs., same basis .....	33.00
Barium nitrate, 100-lb. bgs., 100 lbs. ....	19.50

Benzyl alcohol, N.F., 100- lb. work.	1.20	2.60	
"equid.	1.28	1.85	
"acid, same basis	1.37	1.43	
"pink grade, U.S., same ba- sis.	1.40	-	
"tarka, same basis	1.34	-	
"tack grade, U.S. same basis	1.32	-	
"U.S. same basis.	1.28	-	
Benzyl benzoate, dms.	1.68	2.25	
Benzyl benzoate, tech., non-dms. cf. U.I. Int. equid.	1.59	-	
"tarka, U.S.	.54	-	
Benzyl dithiocarbamate, dms.	8.60	9.95	
n-Benzyl-N,N-dimethylcarbamate, dms. f.o.b. works	2.30	-	
Benzyl formalin, dms.	10.80	-	
6-Tert-Butyl-2-naphthol (see Mono-tert-butyl-2-naphthol).	15.50	-	
Benzyl isocyanide, dms.	2.90	3.25	
Benzyl isocyanide, dms., beta.	2.95	3.25	
Benzyl isocyanide, dms., beta. 100 lb. work, 100-500 gms. or more	44.00	-	
Benzyl isocyanide, dms., beta. 100 lb. work, 100-500 gms. or more	5.60	-	
Benzyl nitrate, purif., crys- tals, Int. equid.	10.00	-	
Benzyl orthocyanide, 100- lb. work.	17.20	-	
Benzyl orthocyanide, USP, medium powd., 255-lb. dms. work.	15.81	15.80	
Benzyl subgallate, purif., 100- lb. work.	10.50	-	
Benzyl succinate, N.F., powder, 200- lb. work.	14.48	-	
Benzyl subsuccinate, purif., powd. 100-500 gms. work.	17.00	-	
Benzyl succinate, resagant, powd., 100- lb. dms. works.	15.00	15.45	
Benzoic acid, a proxy grade	.87	-	
"acid, dms.	.70	-	
"benzoic grade, same basis	.71	-	
"benzoic, int. imp.	.20	-	
"benzoic, int. imp. of Braz.	10.75	12.00	
"benzoic, int. imp.	10.75	-	
"SON ton (440 gms. Int. and Int. 500 gms.) same basis	7.25	8.05	
"benzoic, steamed, dms., 100- lb. work.	6.80	7.90	
Benzyl phosphate, defluorinated of time (see Defluorinated phosphate).	180.00	190.00	
Benzyl phosphate, prop. (see Calcium phosphate tribenzo- ate).	47.00	-	
Benzyl, int. 99%, bps., c.i.	247.00	-	
Bismuth chloride, purif., crys- tals, U.I. works	3.73	-	
Cadmium, CP, red, dark shade, bble, 100-lb. lots, Int. and, E. of Rookies	11.33	16.50	
"light shade, bble, same basis	9.16	12.00	
"medium shade, bble, same basis	10.89	15.25	
"medium-light shade, same ba- sis.	10.98	14.80	
Cadmium, CP, yellow, all shades, bble, 100-lb. lots, Int. and, E. of Rookies	6.10	7.00	
Cadmium fluoroborate, dms., U.I. works, Int. equid.	2.27	-	
"medium-light shade, bble, same ba- sis.	3.22	-	
Cadmium mercury chloride, dms., Int. shade, bble, Int. and, E. of Rookies	4.60	-	
Cadmium metal ingots or sticks, ton lots, os, dms.	1.20	1.00	
Cadmium nitrate purif., flake 400-lb. dms., c.i. U.I. f.o.b. ship, pt. lb.	2.10	-	
Cadmium-selenide-thiophene, orange, all shades, bble, 400-lb. lot, Int. and, E. of Rookies	3.97	4.00	
"deep shade, bble, same basis	4.47	4.80	
"Cadmium-selenide-thiophene, red, dark shade, bble, same basis	6.77	6.80	
"light shade, bble, same basis	6.72	6.30	
"medium light shade, bble, same ba- sis.	6.27	6.70	
"medium shade, bble, same basis	6.40	6.40	
"maroon shade, bble, same basis	7.47	-	
Cadmium-selenide thiophene, yellow, all shades, bble, same basis	2.97	3.00	
Cadmium sulfate, 50-lb. dms., Int. quantity	4.05	-	
Caffeine, dms., USP, int. crys- tal, powder, 100-lb. dms., c.i. U.I. Int. and	4.80	-	
"imp., 100-lb. dms.	4.70	4.90	
"10,000 lbs. or more	1.60	1.70	
Calamine, USP, dms.	20.00	30.00	
Calampol of dms.	-	-	
Calcium fluoride, purif., powd., dms.	-	-	

	Calcium carbide, std., generator size, bulk, c.i., f.o.b., works.....	42.00	-
	Calcium carbonate, pulverized, 325- mesh, bgs., bulk, f.o.b. works.....	46.00 <td>-</td>	-
	stump, 54% soda, same base.....	97.00	100.00
	72% solids, same base.....	106.27	-
	quicksand, gran., incl. bulk, work- s.....	100.93	-
	Calcium carbonate, coated, bgs., c.i., works.....	.0930	1600
	Calcium carbonate, prep., bgs., c.i., works.....	385.00	446.00
	Calcium carbonate preso., medium, bgs., c.i., works.....	110.00	160.00
	prep., dense, bgs., c.i., surface treated, bgs., c.i., works.....	285.00	-
	ultrafine USP, bgs., c.i., works.....	217.00	226.00
	Calcium chloride, conc., reg. grade, 77- 80%, flakes, bulk, c.i., works.....	183.00	-
	100-lb. bgs., c.i., same base.....	196.00	-
	anhyd., 94-97%, flakes or pellet, bulk, c.i., same basis.....	217.00	-
	60-lb. bag, c.i., same basis.....	279.00	-
	brining grade, 80-82 bags.....	285.00	-
	Calcium chloride, 100 lb. per cent salt, t.t., bags.....	99.75	-
	45% same basis.....	118.00	-
	Calcium chloride, USP, gran., 225-lb. ton, l.t., frt. equivd.....	.90	-
	Calcium citrate, 100-lb. bag, 10,000 lbs. or more, f.o.b. works.....	3.82	-
	Calcium cyanamide, indust., anhyd., dms., works.....	400.00	450.00
	dms., works, 100-powd. t.t. lb. Calcium hydride, lump, dms., 25- 1,000-lb. lots, works.....	1.60	-
	10.50	13.25	-
	Calcium hypochlorite, 100-lb. dms., truckloads ship, E. of Rock- land.....	92.40	-
	Calcium hypochlorite, dms., bulk, 500 kilos or more.....	13.75	14.50
	Calcium iodide, FCC dms., f.o.b. works.....	5.50	-
	Calcium iodide, 50-kilo dms., f.o.b. works.....	23.85	26.85
	Calcium lactate, NF, powd., penicilli- dms., 24,000 lbs., f.o.b. works.....	2.00	-
	NF, gran., thylidate, same basis, lb. specimen, dried grade, same basis.....	2.10	-
	Calcium naphthenate, 10, 4% Ca., c.i., d-Calcium plant ester, E. of Rock- land.....	2.80	-
	85	-	-
	d-Calcium pantothenate, USP, 100- 500-lb. lots.....	11.50	12.50
	d-Calcium pantothenate, lead grade, f.o.b. frt. aid., 250 kilos or more.....	8.00	8.50
	d-Calcium pantothenate, calcium chlo- ride complex feed grade, 100-lb. granule per lb., f.o.b. frt. aid., 500 lbs. or more.....	2.75	-
	Calcium phosphate, dibasic, feed grade, 100% P, bulk, c.i., t.t., f.o.b. works.....	228.00	-
	Calcium phosphate, dibasic, drygrade, USP, bgs., c.i., t.t., works, frt. equivd.....	82.50	-
	USP, same basis.....	71.75	-
	identical grade, same basis.....	49.90	-
	Calcium phosphates, monobasic, monohydrate, food grade, bgs., c.i., t.t., works, frt. equivd.....	100.00	-
	anhyd. food grade, same ba- sis.....	54.95	-
	tribasic, NF precip., bgs., c.i., frt. equivd.....	61.00	-
	Calcium phosphates, 100,000 lbs. or more, f.o.b. frt. aid.....	50	55
	Calcium silicate, hydrated, bgs., c.i., works.....	11.00	-
	Calcium silicate, paint grade (see Vicostone), Calcium NF, mid powd., 100-lb. bag, f.o.b. works.....	8.50	-
	Camphene chlorinated, 67-55% (see Toxaphene), Camphor, monobromated, dms., bgs.....	3.63	3.70
	Campher, syn. tech., 165-dms. bag, 5,000 lbs. or more.....	1.60	-
	USP, powder, 166-lb. dms., 5,000 lb. lots or more.....	2.98	-
	syn. med. 1-cz. tablets, dms., 5,000 lb. lots or more.....	2.50	-
	Camphor oil, yellow, 25-lb. dms.....	1.60	-
	white, dms.....	1.50	-
	spice, gran., 1,070 dms.....	2.00	2.25
	Carbaryl of Indonesian, dms.....	17.00	-
	Candellila wax, crude, bgs.....	1.90	-
	refined, pure, bgs.....	2.10	-
	Capric acid, conc., pure, dms.....	.60	.65
	tanks.....	.60	.65
	Caprylic aldehyde (necylaldehyde C-10) dms., c.i., works.....	3.85	5.35
	Caproterol monomer, flake, bgs., t.t., f.o.b. shipping point.....	.87	-
	molten, tank, same basis.....	.65	-
	Capryl alcohol sec., 82-89% tanks, f.o.b. works.....	.36	.79%
	Caprylic acid, conc., pure, tanks.....	.79%	-
	Capric acid (see Capricol oleoresin), Capricol oleoresin, NF, from dom., pepper, dms.....	11.00	-
	NF, from African pepper, dms.....	3.00	15.00
	1,000,000 pungency.....	17.00	19.00
	Caraway oil, Poland, dms.....	22.00	25.00
	Caraway seed, Dutch, bgs.....	.50	.59
	Egyptian, bgs.....	.50	.53
	Carbon black, furnace, fast extruding (FFP), bulk, c.i., works.....	212%	-
	c.i., works.....	242%	-
	general purpose (GFP), works.....	237%	-
	bgs., c.i., works.....	237%	-
	High abrasion (HAF), high abrasion, bulk, c.i., works.....	2300	-
	low abrasion (LAF), low abrasion, bulk, c.i., works.....	2300	-
	Carbon Black, low structure, bulk, c.i., works.....	240	280
	Carbon black, 200 mesh, bulk, c.i., works.....	270	290
	Intermediate-super-abrasion (ISAP), bgs., c.i., works.....	28	-
	super-abrasion (SA), bulk, c.i., works.....	31	-
	bgs., c.i., works.....	4080	-
	semi-refractory (SRF), bulk, c.i., works.....	210	-
	bgs., c.i., works.....	240	-
	Carbon black, thermal, medium, bgs., c.i., works.....	.30	30%
	bulk, c.i., works, low ash.....	.32	34%
	Carbon black, oil, bagged, 100-lb		

**Carbon Black, low structure, bulk, o.i.**

Carbon black, low structure, bulk, c.i. works	.240	280
bags, c.i. works	.270	290
Intermediate-super-abrasion (ISAF)	.28	-
bag, c.i. works	.25	-
super-abrasion (SAF), bulk, c.i. works	.31	-
bag, c.i. works	.4080	-
semi-reinforcing (SRF), bulk, c.i. works	.210	-
bag, c.i. works	.240	-
Carbon black, thermal, medium, bgs. c.i. works	.30	30%
bulk, works	.32	34%
Carbon black oil, barge, f.o.b. Gulf refineries	10.50	12.50
f.o.b. U.S. Gulf refineries	10.50	12.50
Carbon disulfide, bulk, c.i. works	420.00	-
Carbon tetrachloride, CP, consumer, dms. c.i., ft. sold	.36	-
tech. dms. c.i., t.l. ft. sold	.31	-
tank transport (min. 4,000 gals.) ft. sold	.24	-
Carboxymethyl cellulose (see CMC)	-	-
Cardamom oil, NF, bota.	65.00	-
Cardamome, Gode, Guatemala, lb.	3.00	-
Cashew, Gode, Guatemala, lb.	6.25	6.75
Cassia, No. 40, NF, bulk, 100-lb. lots or more, dhd.	135.00	140.00
Cassia wax, Panama, No. 1, yellow, 5-lb. tons	1.95	2.05
Cassa, No. yellow, 5-lb. tons, ton lots	1.75	1.80
North Country, No. 2, refined, bgs., ton lots	1.65	1.65
North Country, No. 3, refined, bgs., ton lots	1.10	-
centrifuged, bgs., ton lots	1.65	-
North Country, No. 3, refined, bgs., ton lots	1.30	1.45
Powdered cassia, 100 mesh, 200 mesh, 200 per lb. higher	-	-
c-Carotene, in vegetable oil, semi-solid suspension, 400,000 A units per gram, 35 lbs. or more, lb.	32.75	-
c-Carotene, liq., 400,000 A units per gram, 500,000 A units per gram, 35 lbs. or more, lb.	40.75	-
c-Carotene, dry beads, 100, 167,000 A units per gram, 35 lbs. or more, lb.	28.85	-
d-Carotene, 25-lb. dms., apm.	26.00	-
l-Carotene	7.00	7.25
Cassara esgrada bark, bulk	1.00	-
Cashew, imp., acid-prich., grd., 30 mesh, Australian, same basis, c.i. ft. sold	1.45	-
Cassia, Indian, same basis, c.i. Australian, Indian, same basis, c.i.	1.385	-
Cassia oil, 300 mil. wt., dms., ft.	3.70	-
Cassia, 100% basic, lb.	95	-
Cassa, Korring ("A" brand), lb.	9.15	10%
"B" bgs.	.72	.75
Caster oil, raw, No. 1, Braz. tanks, lb. U.S. 5-dms.	.31	.33
U.S. 5-dms.	.34	-
U.S. 5-dms.	.37	-
U.S. 5-dms.	.38	-
blown, 5-dms.	.75	-
dehydrated, bodied, tanks	.74	-
dehydrated, unbodied, tanks	.85	-
Caster oil, dehydrated, tanks	1.10	-
ricinoleic acid, lb.	.78%	.83
Caster pomace, bgs., container load, f.o.b. Miami, Fla.	164.00	-
Caster seeds, nat., cns.	18.00	35.00
Catechu, CP, 45-lb. dms., 80-239 dms., f.o.b.	7.93	-
tech. bgs., l.i., same basis	3.71	-
Catechu, CP, 45-lb. dms., 80-239 dms., f.o.b. (see Potilla, same basis)	-	-
Cedarleaf oil, dms.	17.50	-
Cedarwood oil, Texas, dms., cns.	3.50	4.00
Cedrol, 5-lb. dms.	3.70	4.20
Cedryl acetate, dms.	5.25	-
Cedryl acetate, dms.	4.25	5.30
Cedryl seed, Indian, bgs.	.48	-
Cedryl seed oil, lb.	80.00	53.00
Cellulose acetate, bgs., bgs.	1.30	-
Cellulose acetate butyrate, power, 17% butyl content, bgs., t.l., dhd.	1.75	-
38% butyl content, bgs.	1.58	-
50% butyl content, bgs., dhd.	1.81	-
50% butyl content, bgs., dhd.	1.63	-
Cellulose, pure, high vis., bgs., 24,000 cps. at 2% soln., f.o.b. Hopewell, Va.	1.60	1.70
cell, low or medium vis., bgs., c.i., t.l., f.o.b. Hopewell, Va.	1.60	1.90
Cerium carbonate, 90% CaO, dms.	1.35	-
Cerium hydroxide 90% CaO, dms. works	6.40	-
77% CaO, dms., works	2.00	1.80
Cerium oxide, optical grade, bgs., 50-lb. dms.	1.85	1.90
Chalk, 50-lb. dms., c.i., t.l., dhd.	.86%	1.27
Chalk (see Calcium carbonate)	-	-
Chamomile flowers, Hungarian, cs., lb.	4.25	4.50
Chamomile, Hungary, lb.	4.94	-
Egyptian, lb.	2.70	-
Chamomile oil, blue, Egyptian	545.00	-
blue, Hungarian	370.00	-
Chenopodium, NF, cns.	15.00	-
Chenopodium dry, bgs., ft. sold	16.50	-
China tea (see Pepper, red)	-	-
Chitrendo amyrida, tech. dms., l.i.	1.90	-
Chlorinated paraffin, 60% chlorine, 50% dhd., Zone 1	.45	.48%
50% chlorine, same basis	.45	.47%
50% chlorine, same basis	.45%	.48%
70% chlorine, same basis, 50-lb. dms., c.i., same basis	.65	-



*[Handwritten signature]*

هَذَا مِنْ الْأَمَلِ







هذه في











**EQUIPMENT WANTED**  
GOOD, USED, CHEMICAL,  
PHARMACEUTICAL & RELATED  
EQUIPMENT - CENTRIFUGES,  
DRYERS, FILTERS, REACTORS,  
TANKS ETC.  
WE WILL PURCHASE INDIVIDUAL  
ITEMS OR COMPLETE  
PLANTS.  
CALL OUR OFFICE TODAY. TOP  
DOLLARS PAID. NO DEAL TOO  
BIG OR TOO SMALL.

**SAVE** **SAVE** **SAVE** **SAVE**  
**IDM**

**LIQUIDATION OF 160 M.M. LB./YR.  
SODIUM TRIPOLYPHOSPHATE PLANT-KEARNY, N.J.**

- (1) 8" dia x 46" Bartlett Snow  
Rotary dryer, 316 SS, 100 HP  
(1) 8" dia x 50" Louisville Steamtube  
Rotary dryer SS clad, 40 HP  
(1) 11" dia x 70" Long Bartlett Snow  
Calciner, 316 SS, 1100" C,  
comp.  
(1) 12" dia C.E. Raymond Separator,  
Single whizler  
(2) Roto-Clone Type N Wet Scrub-  
bers SS constr.
- (1) 10,000 gal. Mix tank, SS constr.  
13" dia x 10', 30 HP  
(2) 10,000 gal. Mix tanks w/int.  
colls, 13" dia x 10', 30 HP  
(1) 4,300 gal. Storage tank, 304 SS,  
9 1/2" dia x 8'  
(1) 3,400 gal. Jkt. tank, SS constr.,  
150 psi jkt.  
(1) 2,600 Storage Tank, SS constr.,  
7" dia x 9'  
(1) Butler Building

**LARGE QUANTITY SILOS**  
Many Screw Conveyers Available  
Various Sizes, C.S. & SS Construction  
Buy Direct from Plant site And Save  
Call For Complete Details

**DRYERS**

- Drum Dryers/Flakers**  
(1) 24" dia. x 36" Buffalo SS dble. drum  
dryer  
(2) 32" dia. x 108" Blaw Knox CI dble. drum  
dryer  
(1) 32" dia. x 176" Sandvik SS belt flaker  
(1) 36" dia. x 10' Buffalo CI dble. drum dryer  
(1) 42" dia. x 120" Blaw Knox CI dble. drum  
dryer  
(1) 46" dia. x 28" drum flaker, chrome plated  
drum  
(1) 48" dia. x 40" CI flaker, mfg. by Buffalo  
Foundry  
(1) 48" dia. x 40 drum flaker, nickel plated  
drum, mfg. Blaw-Knox

- Fluid Bed**  
(1) 60 Kg. Aeromatic Batch, 6'x9', 58,000  
100 Kg. Aeromatic Model ST 100, sanitary  
SS  
(1) Flaptrack Model FA 250, SS, 20 HP XP

- Holoflote**  
(1) Western Precipitation Model 800S0-A,  
twin screw, 12" dia. x 20' long, SS constr.,  
jacket rated 15 psi, complete with 7.5 HP  
variable speed drive  
(1) New/Rever Used Joy Processor, CS, single  
screw, 16" x 16" long, rated 110 psi at 340°  
F., sprocket & chain drive by 1.5 HP  
variable speed drive.

- Rotary Vacuum**  
(1) 60 Kg. Blaw-Knox, SS constr., compit.  
(1) 150 Cu. Ft. Pfander, Double Cone, G/L, 30  
HP/60 gal. jkt., 12 HP vari-drive  
(1) 120 Cu. Ft. Blaw-Knox, Nickel  
(1) 120 Cu. Ft. Blaw-Knox, Nickel  
(1) 22 Cu. Ft. Blaw-Knox, SS  
(1) 60 Cu. Ft. Titanium Double Cone  
(1) Cu. Ft. Gemco, 316SS sanitary, double  
cone  
(1) 37.8 Cu. Ft. Horiz. Thin Film, vac. int. & 150  
psi, 316SS  
(1) 37.8 Cu. Ft. Gemco, SS  
(1) 30 Cu. Ft. P.K. Twin Shell, 304SS  
(1) 20 Cu. Ft. Albe Twin Cone, 304SS

- Spray**  
(1) 30" x 33" Bowen Laboratory w/3 cone bot-  
tom, SS constr., w/centrifugal atomizer, 3  
HP blower & motor (1)  
(1) Niro lab size 32" dia. cone, w/2 cone w/centrif.  
atomizer SS constr.  
(1) 18" dia. Bowen compit. system SS con-  
struct, new 1976

**CENTRIFUGES**

- (1) Delaval BRPX 309, SS, 20HP  
(1) Unused Model B-10 Potabilizak, Alloy 20  
(1) Sharples AS-26, SS  
(1) Sharples AS-16P, 316SS  
(1) Alfa-Laval Model C150 CSU "Merco," 316SS  
contacts, 150 HP  
(1) Baker Perkins S-92 "Pusher Type," SS, 60 HP  
(1) Bird 18" x 28", 316 ELC, conical bowl.  
(2) Bird 24" x 36", 316SS, 40 HP  
(1) Sharples P-1000, 316SS, 30 HP  
(1) Sharples P-1000, SS 20HP  
(1) Unused Bird 36 x 36, 317L SS  
(1) Tolhurst 48" x 24" perf. basket, 316SS  
sanitary, auto. plow & discharge, rated 85  
psi, 800 RPM, 20 HP XP  
(1) Tolhurst 48" x 24" Batchmaster, 316SS, perf.  
basket, w/hydr. plow & 20 HP hydr. drive  
(1) Tolhurst 48" x 24" Batchmaster, rubber lined,  
perf. basket, w/hydr. plow & 20HP hydr. drive  
(1) Tolhurst 48" x 24" Batchmaster, Herseite  
lined, perf. basket, w/hydr. plow & 20 HP  
hydr. drive  
(1) Western states 48" x 24", 316 SS  
(1) Fletcher 48" x 28" Suspended type, SS perf.  
basket, 20/10 HP  
(1) Sharples Tornado 48" x 30", 316SS, perf.  
basket, 40 HP XP  
(1) Alfa Laval Model MAPX 210 T24, SS wetted  
parts  
(2) Sharples C-27, 316 SS, wetted parts, 40 HP  
(1) Sharples C-20, Super-D-Hydrator, SS, 30 HP  
(1) Dorr Oliver Marcone Screener Model C-400 X2,  
all SS, twin screw disc, 10 HP

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**REACTORS**

- Class Lined**  
4,000 Gal. Pfaudler, 100/90 gal, TW  
4,000 gal Pfaudler, 50/30 gal  
3,000 gal Glascoate, 50 & FV/80 gal  
3,000 gal Glascoate, 50 & FV/80 gal  
3,000 gal Pfaudler, 75/90 gal  
2,000 gal Pfaudler, 75/90 gal  
1,000 Gal. Pfaudler, 100&FV/80 gal,  
4RW  
1,000 Gal. Pfaudler, RA60 Series, 100&  
FV/80 gal, 40W  
1,000 Gal. Pfaudler, RA60 Series, 100&  
FV/90 gal, 4TW  
800 Gal. SS clad, 60/80 gal  
750 gal. DeDietrick, Phila drive  
500 Gal. Pfaudler, 100&FV/85 gal, BH  
drive

- Stainless Steel**  
4,000 Gal. 316SS, Aluma, 150 psi, w/colts  
3,000 Gal. 347SS Blaw Knox, 150/80 psi  
2,500 Gal. 316L SS, 75/75 psi, 180 psi int. colls  
2,000 Gal. Nooter Autoclave, 316L 2000  
psi, FV int. colls  
2,000 Gal. Dusenberg, 316 SS, 15/35 &  
15/50 psi, 31 psi jkt.  
1,750 Gal. 316SS Noite, 1467/50 psi  
1,500 Gal. 304SS, 10 HP Lightnin  
1,500 Gal. 304 SS, 100/30 psi  
1,000 Gal. 304SS, 250/80 psi  
1,000 Gal. 316SS, 50/75 psi jkt  
1,000 Gal. 316 SS, 15 & FV/60, 10 HP  
1,000 Gal. 316 SS, 100/30 10 HP  
750 Gal. 316SS, 75 & FV/50 psi  
750 Gal. 304SS, 50/60 psi  
600 Gal. 316SS, 3000psi, 10 HP  
600 Gal. SS, 50 psi, 1.5 HP XP  
800 Gal. 316SS, 55 & FV/55 psi  
100 Gal. 316SS, 15/50 psi  
100 Gal. 316ELC SS, 500/90 psi

- Pressure Leaf**  
1-562 Sq. Ft., 316ELC, Hercules, 28 leaves  
1-512 Sq. Ft., 316SS, Niagara, 21 leaves  
1-400 Sq. Ft. R/L Sparkler  
1-327 Sq. Ft., 304SS, Ind. Filter, 11 leaves  
1-320 Sq. Ft. Durco 316 SS, 11 Leaves  
1-259 Sq. Ft. Pronto Mod. #3250, 75 psi  
1-200 Sq. Ft., SS, Hercules, Horiz.  
1-161 Sq. Ft. Enzinger, SS, Vert., 75 psi  
1-157.64 sq. Ft. Sparkler model 55-5-28,  
316SS  
1-150 Sq. Ft. Horiz., 12 Vert. Leaf 316SS  
1-135 Sq. Ft. Nl, Bowser, Vert.  
1-35 Sq. Ft. Hercules Model 5, 316 SS,  
horiz. tank vert leaves 50 psi

**MIXERS**

- 4.5 Gal. Kneader Master Cont., SS w/KL  
5 Gal. AMK 304SS Jcktd. Kneader Extruder  
15 Gal. W.C. Readco Sigma Blade Dbl. arm  
25 gal. Readco DBL/Arm Sigma Blade jkt. 58  
psi  
80 Gal. Hockmeyer Pony, SS constr., 7.8 HP  
variable speed  
100 Gal. SS, Sigma Blade, Jcktd., 40 HP  
200 gal. W-P CS dble arm Sigma blade, 20 HP  
250 gal. AMK Kneader Extruder, Sigma  
Blades, CS constr., 40 psi, brought jkt.  
500 liter Welax hi intensity, SS constr. parts  
500 Gal. S-W Rubber Cement, CS, 2-10 HP  
motors (2)  
Unused 1000 Gal. Sanitary 316SS B-K Dbl. Motion  
Change Can; 100&FV/180 PSI, 120HP  
Littleford Model FKM-600S, SS  
Littleford Model FKM-2000, SS, w/choppers  
Littleford Model FM 100 Sanit. SS w/choppers  
S.S. Cu. Ft. Prodez Henschel Mod. 35 J SS, 55 Const.  
7 Cu. Ft. 304SS Nauta Model MBX-70  
10.8 Cu. Ft. Nauta D-105, CS  
Welding Eng. Model 2FV128 Twin screw  
Extruder, SS, Contacts, 180 psi  
Koehring mdl. 350, 40 HP

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- ACCUMULATORS**  
Standard Model 48" diameter, stainless steel accumulator.  
**AIR COMPRESSORS**  
General Hand 25 HP, air cooled, air compressor, 100 CFM, 100 PSI.  
**ATTRITION MILL**  
Bauermeister attrition mill, model UT 12, 12" diameter rotor, 15 HP.  
**ATTRITORS**  
Union Process attritor, size 15, 1/2 gallon, 1/4 HP explosion proof.  
**BOILERS-ELECTRIC**  
Chromalox 100KW, 341,250 BTU's, water-glycol heat transfer system,  
100 PSI.  
**BOTTLE CLEANERS**  
Standard Metal Co. model J1 600 bottle cleaner.  
**BUNDLER**  
Great Lakes bundler, model 500-2, automatic bundler and sleeve wrap.  
**CAPPERS**  
CPC Coated capper, set for 63 mm, 60 caps per minute.  
**CASE EJECTOR**  
ABC Model C, model S-77, forms and bottom seals, 35-70 cases/  
minute.  
**CASE PACKER**  
Meyer Hydro drop capper, model R3KT.  
**CASE SEALER**  
ABC Junior top and bottom case sealer, with cold glue.  
Elliott model 3200 top only case sealer, pressure glue.  
Elliott model 3200 top only case sealer, with pressure glue.  
Standard Hopp case sealer, model 462HXL, top only, Nordson hot melt.  
**CEMENT**  
Gottschalk Jet Coder, model SH/H, non contract, line speed  
200/min.  
**COMPRESSION SECTIONS**  
New Way compression section, model F, 6' long.  
**CONVEYORS-SCREW**  
Screw Conveyor, stainless steel, 7" dia. x 136' long, 6" pitch, 1/2 HP.  
S/S substation w/7" dia. vert. screw conveyor, discharge 132' H.  
**DISPENSER**  
NEW/Used Dispenser, model VHS 400, 20 HP explosion proof.  
Hockmeyer Model M, 10 HP XP V/S dispenser, with tub holder.  
Unused Hockmeyer 200/100 HP XP, tank mount, high speed dis-  
penser, 460 V.  
**DUST COLLECTORS**  
Hamilton 200 gallon S/S bottle, double motion, 2HP V/S, 45 PSI agitation.  
Hochman 80 quart turner, model M-802, 316 HP, 4 speed, tail pedestal  
chiller.  
**EXTRUDER**  
Prodez extruder, 3 1/2", 21-1.5 zone, 40 HP variable speed.

- FADE-OMETER**  
Electric Devices Fade-Ometer, model 18-FY  
**FILLERS-BAG**  
Stoker model CR bag packer, 3" dia. x 11" long spout, 20-250 lbs. cap.  
Stoker model 15VR bag packer, 3" dia. x 11" long spout, 20-250 lbs. cap.  
Stoker model 15VR bag packer, 3" dia. x 11" long spout, 20-250 lbs. cap.  
**FILLER-PAINT**  
Ambrosia filler, model PF-9  
Elgin Single Piston Filler, nickel, 132 oz. cylinder, no conveyor.  
Elgin Twin Piston Filler, stainless steel, 270 oz. cylinders  
**FILLER-PISTON**  
Anderson model 340-4, S/S, 32 oz. piston, cup filler with plug capper.  
B.F. Gump Edibauer-Duplex net weigh, size 3, semi-automatic.  
**FILLER-POWDER**  
Parsons model C, 10 head filler, 7-14 oz. RL  
B.F. Gump Edibauer-Duplex net weigh, size 3, semi-automatic.  
**FILLERS-TUBE**  
Kalks KX-60 metal tube filler, S/S, agitated hopper, 2 to 163 cu. ft.  
**GEAR REDUCERS**  
20 HP exp. proof, 125 RPM output, class 3, horizontal parallel shaft.  
7 1/2 HP XP, horizontal, parallel shaft gearhead, 280-140 output RPM.  
**GRANULATOR-OSCILLATING**  
Cherry Burrell Model 542, S/S oscillating granulator.  
Cherry Burrell Model 542, S/S oscillating granulator.  
Cherry Burrell Model 542, S/S oscillating granulator.  
Stokes oscillating granulator, model 43A, carbon steel construction.  
Stokes oscillating granulator, model 43A, carbon steel construction.  
**GLUER**  
Owens Illinois Inner seal gluer, for jars and bottles.  
Owens Illinois Inner seal gluer, for jars and bottles.  
**HOMOGENIZERS**  
Mansueto Homogenizer, 2,500 GPH @ 3,000 PSI, 75 HP.  
**HOT OIL UNITS**  
Sterto 12 KW hot oil unit, 440 volts.  
**KETTLES-MIXING**  
Hamilton 200 gallon S/S kettle, double motion, 2HP V/S, 45 PSI agitation.  
Hochman 80 quart turner, model M-802, 316 HP, 4 speed, tail pedestal  
chiller.  
**LABELER-AUTOMATIC GLUE**  
Fasson model M-11 pressure sensitive labeler, 5" max. web width.  
Fasson model M-11 pressure sensitive labeler, 5" max. web width.  
**LABELER-SEMI-AUTOMATIC**  
Labette model 1418 labeler, hot melt, 2 psi to 1 gal. w/ears  
**LID DROPPERS & CLOSERS**  
Egmont S lid dropper and closer, 4 HP.

- MILLS-COLLOID**  
Triton Ind. Tri-Homo colloid mill, 316 S/S, size 10, 40 HP.  
Tri-Homo Col. colloid mill, 316 S/S, size 10, 40 HP.  
Premier 316 S/S colloid mill, 10" dia., model KSH, 40 HP.  
Morehouse B-1400 stone mill, 20 HP explosion proof.  
Tri-Homo S colloid mill, stainless steel, 5 HP explosion proof.  
**MILL-HAMMER**  
Micro Pulverizer model 31TH, stirrup swing hammers, 30 HP.  
Micro Pulverizer model 16H, stainless steel, stirrup swing hammer  
40V.  
**MILLS-KADY**  
Kady mill model 2 BH, 100 gallon batch, 40 HP explosion proof.  
**MILLS-PEBBLE**  
Patterson 6" x 3" pebble mill, 504 gallon batch, 25 HP explosion proof.  
J.R. Alsing Engineering 3" x 4" pebble mill, 92 gal. batch, 3 HP XP.  
Norton pebble mill, 38" x 42", 128 gallon batch, 5 HP explosion proof.  
Paul O. Abbe 38" x 42" pebble mill, 45 gal. batch, 2HP TEFC  
Sveco 20" x 20" pebble mill, 18.5 gallon batch, high stands, 2 HP  
U.S. Stoneless 22 gal pebble mill, frame and reducer only.  
Paul O. Abbe 16" x 24" pebble mill, 12.5 gallon batch, 1 HP  
Sveco 32" x 36" pebble mill, 75 gallon batch, high stands, 5 HP XP.  
**MILLS-THREE ROLL**  
J.H. Day 18" x 40" three roll mill, 20 HP explosion proof.  
Kent 4" x 8" three roll mill, 4 HP explosion proof.  
Kent 4" x 8" three roll mill, 4 HP explosion proof.  
**MILLS-TWO ROLL**  
Throp 6" x 12" two roll mill, 7 1/2 HP.  
**MILLS-SAND & SHOT**  
Chicago Boiler sand mill, model 16P.  
Chicago Boiler sand mill, model 33 standard.  
Premier 16 gallon closed head media mill, 50 HP explosion proof dr  
Morehouse-Cowles sand mill, model 12-30, closed head, 40 HP XP  
**MILLS-STEEL BALL**  
Patterson 2 1/2" x 3" steel ball mill, 74 gallon batch, 7 1/2 HP XP.  
Patterson 2 1/2" x 3" steel ball mill, 74 gallon batch, 7 1/2 HP XP.  
Patterson 2 1/2" x 3" steel ball mill, 74 gallon batch, 7 1/2 HP XP.  
**MIXERS-BAKERY**  
Hochman 200 quart mixer, model A200, 4 HP 3 speed.  
Hochman 200 quart mixer, model A200, 4 HP 3 speed.  
Hochman 200 quart mixer, model A200, 4 HP 3 speed.  
**MIXER-DOUBLE ARM**  
Readco 10 cu. ft. 316 stainless steel double arm mixer, 7 1/2 HP XP.  
**MIXERS-DOUBLE RIBBON**  
Falcon 39 cu. ft. S/S, double, ribbon blender, jacketed, 7 1/2 HP XP.  
Readco 10 cu. ft. S/S double ribbon blender, 3 HP.  
**MIXERS-PADDLE**  
Paddle Blender, 11 cu. ft., carbon steel, 15 HP.  
**MIXERS-PONY**  
Kent 60 gallon pony mixer, 7 1/2 HP XP, planetary action, 4 hubs.

- MIXERS-STATIONARY**  
Patterson Unipower, 10 HP TEFC, 38 RPM.  
Patterson Unipower, 7 1/2 HP TEFC, 28 RPM.  
**OVENS-GAS**  
Griffin gas oven, max. temp. 850 deg. F, interior 38" x 28" x 20".  
Blue M 24" x 24" x 48" interior, 316 deg. C.  
Despatch 37" x 37" x 25" interior, 850 deg. F.  
**PUMPS-CENTRIFUGAL S/S**  
Trench & Marine 2" x 1 1/2" S/S centrifugal pump, HP TEFC VS.  
**PUMPS-POSITIVE DISPLACEMENT**  
Viking 2", model LL124R, pressure relief valve, 3 HP explosion proof.  
Waring 2", model 71258, pressure relief, 5 HP explosion proof.  
**PUMPS-VACUUM**  
Stokes model 812G MICROVAC vacuum pump, 500 CFM, 25 HP.  
Kinney vacuum pump.  
**REACTOR-STAINLESS STEEL**  
316 S/S reactor, 300 gal., 14 1/4" x 7" S/S explosion proof.  
Patterson Fourdry 300 gallon, 316 S/S reactor, 100/30 PSI, 2 HP.  
Export 75 gallon, 304 stainless steel reactor, 275/15 PSI, 3 HP XP VS.  
Export 75 gallon, 304 stainless steel reactor, 275/15 PSI, 3 HP XP VS.  
**SIFTERS/SEPARATORS**  
Gump 316 S/S pressure sifter, model CP-32, 36" dia., 3HP, sanitary.  
Sveco 60" dia. C/S, single deck, open top, 2 1/2 HP.  
**TANKS-CARBON STEEL MIXING**  
Imperial 1,000 gallon carbon steel mixing tank with 5 HP XP 48 RPM  
drive.  
Imperial 1,000 gallon carbon steel mixing tank with 5 HP XP 48 RPM  
drive.  
Patterson 850 gallon carbon steel mixing tank with 5 HP XP 300 RPM  
drive.  
**TANKS-JACKETED**  
Green 430 gallon, 304 S/S tank, 15 PSI jacket.  
Nooter Mfg. Co. 160 gallon 304 S/S tank, jacketed, 4 HP.  
United Tanks 100 gal., 316 S/S tank, 150 PSI jacket.  
**TANKS-STAINLESS ST. MIXING**  
6,000 gallon S/S mixing tank, closed top, cone bottom, 4 HP S.75 RPM.  
Alloy Fabricators 7,500 gal., 316 S/S tank, 10" dia. x 12' deep, 15 HP.  
Alloy Fabricators 7,500 gal., 316 S/S tank, 10" dia. x 12' deep, 15 HP.  
Alloy Fabricators 7,500 gal., 316 S/S tank, 10" dia. x 12' deep, 15 HP.  
**TANKS-STAINLESS ST. STORAGE**  
Cherry-Burrell 6,000 gal., horizontal storage tank, 8" dia. x 19'.  
Alloy Fabricators 7,500 gal., 316 S/S tank, 10" dia. x 12' deep.  
**UNSCRAMBLER**  
Northern Converter 6 lane unscrambler, 25" wide.  
**WEATHER-OMETER**  
Atlas Weather-Ometer model XW-VR, auto humidity, chart recorder,  
chiller.  
Atlas Weather-Ometer model XW-VR, auto humidity control, chart  
recorder.  
**MISCELLANEOUS**  
Schmutz Mfg. Co., Inc. top grain oil test printer, model CM24, 24" wide

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LITTLEFORD Lodge Mod. KM-300D  
S/S Continuous Mixer  
(1) 10 Cu. Ft. S/S Ribbon Blenders  
RIETZ 6" Extructor  
KEMWALL Powder Press  
STOKES Mod. 526 Single Station  
Dual Pressure Tablet Press  
STOKES Mod. 338-D Vacuum  
Dryer/Oven  
AMF GLEN 340 Qt. Mixer  
(1) RESINA U-30 and (2) U-40  
Cappers  
PMC 6-Station Automatic Cap  
Plugging  
MATEER Bursa-fil S/S In-case Scale  
Filling System  
CRANDALL Twin 5-Gal. S/S Scale  
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ALFA-LAVAL NX-214SS DECANter 20 HP  
SHARPLES 48" x 30" Y-1600 AUTO 316 SS (2)  
SHARPLES Mark 3 14" S/S perf. auto basket  
**MIXERS/BLENDEES**  
P/K 2, 10, 15, 16, 75 cu. ft. SS Twin Shell w/ear  
Readco 5 gal. SS dble. arm jkt vac. 5 HP  
120, 135, 155, 250, cu. ft. dbl rib  
300 gal. J.H. Day Pony Mixer Steel w/can  
J.H. Day 300 gal. S/S dble. arm tilt  
(2) Vreco 100 cu. ft. S/S Nauta Mixers  
LITTLERFORD 42 cu. ft. S/S jkt.  
Readco 300 gal. S/S dble. arm 60 HP  
**DRYERS**  
Patterson 49 cu. ft. rot. vac. cyl. S/S 3' x 7'  
P/K 5, 10, 370 cu. ft. SS liq-Sol. Processor  
LOUISVILLE 6x45 SS Rot. Hot Air-Steam  
BOWEN 4" No. 2 TOWER SPRAY DRYER S/S GAS NOZZLE  
Spray Dryer, Bowen 30" lab, Niro 46" utility S/S  
**FILTERS**  
SPARKLER 352 sq. ft. S/S Mod V-R-32  
SPARKLER 18-D-S S/S Vert. Tank Press Leaf 60"  
2.5" x 1/8" S/S Vacuum Belt Filter  
18" x 24", 36" x 42" P/P Presses CS 15 HP  
SPARKLER HRC 150, 200 S/S Horiz. Press. Leaf  
35, 50, 150, 300 sq. ft. Press Leaf S/S  
**TANKS/REACTORS**  
28,000 GAL. HORIZ. 316SS Tanks 40" (2)  
300 Gal. Green S/S Kettle (jkt)  
1,200 Gal. 1516 SS REACTOR 30 75/1 JKT. w/AJOT.  
12000 Gal. Horiz SS w/Top Agit, DH. Hs.  
2800 Gal. Horiz SS w/Top Agit, DH. Hs.  
30,50, 150 Gal. S/S Reactors 100" #75 S  
16,000 gal. 304 SS vert. w/coll & agit.  
**MISC. SPECIALS**  
PFAUDLER 1500 gal. S/S Reactor  
MFG 1000, GPH HOMOG.  
65 HP MODULATIC Boiler 250 gal Gas Fired  
SIMPSON 1YAF, 3F, S/S MIX MILLERS  
6" x 78" Autoclave 150 psi w/track GGD  
-FTZ Mills 3/8 D, D12, FASD12 & Chiltonators  
7" (any length) AUTOCLAVES 1000 Code W/Track  
-100-10,000 sq. ft. Ht./Exch'r S/S & C/S  
150 cu. ft. P/K Twin Shell skt. 10 HP  
-100-10,000 gal. G/L Tanks & Reactors  
DAY 100 gal. S/S dble. arm sigma jkt. vac.  
**SAVE**  
**PLANT SITE**  
**SPECIALS**  
36" x 72" Bird horiz. solid bowl cent. all  
Stainless 6x60 Rot Hot Air Dryer w/Burner, C/S  
50 gal. J.H. Day Pony Mixer Steel w/Can  
2000 gal. Pfander 1500 S/S w/2000 RPM  
Bird 40x80 316 S/S Cent. 114" x 150 HP  
Falcon 6" x 7" S/S Rot Vac Mill  
190 cu. ft. Munson Mixer S/S jkt.  
12,000 gal. P/K Vert. Tank (2)  
1000 gal. Pfander G/L reactor 75" #75 w/agit.  
Bird 1 1/2x28 S/S Contour Bowl Centrifuge  
P/K 5" x 48" SS CONVEYOR DRYER  
24, 500 Gal. Twin Shell SS Vert 12" x 84"  
**SAVE**  
**VIDEX WAREHOUSE SPECIAL**  
Baker Perkins 4" Twin Screw Cont.  
Poly con Reactor/Mixer  
Call for Details  
**JUST  
PURCHASED**  
Migera 24 sq. ft. Press. leaf filter S/S  
200 gal. S/S reactor 1500/1500 w/agit.  
200 gal S/S vacuum receiver  
Foremost HD-6 Granulators 14x18 (3)  
108" x 54" x 41" 32" extrusion sheet lines  
Micro-Pulv 1800 SS 5 HP w/variable speed  
MFG Homogenizer 250 M12-4 TSS (2000 P&B)  
Norton 73 gal. liq. S/S vac. shell dryer  
S/P 8" x 8" 16" S/S G/L T/L DRUM MIXER JKT.  
Pfander 10,000 gal. G/L Reactor  
250 gal. S/S reactor 90" #125" jkt. w/agit.  
**WE HAVE MANY MORE ITEMS - LET US KNOW WHAT YOU NEED**  
October 20, 1988  
October 20, 1988







# CMR MARKETPLACE

CHEMICAL MARKETING REPORTER'S CLASSIFIED ADVERTISING SECTION

COPY DEADLINE: Wednesday Noon preceding date of publication.

RATES/Classified Ads: \$57.75 for 36 words or less; \$9.75 for each additional six words or fraction. No display. First two words printed in bold face type. Non-display advertisements payable in advance, except for contract customers (not subject to agency commission).

REPLIES: Send replies to classified ads with box numbers to CHEMICAL MARKETING REPORTER, 100 Church St., New York, NY 10007-2694.

INFORMATION: For further classified advertising information, call 212/732-9820.

## CHEMICALS OFFERED

Glycerine natural USP 99.5 — new drums — low low prices regular supply — available from New Jersey/Baltimore/Houston/West Coast warehouses. Inquire now. Write CMR, Box No. 729.

Glycerine, 85 percent, natural, yellow. Glycerine, 99.5 USP, Bulk and Drums Crude Glycerine/All reasonably priced. We are also interested in streams and by-products. Please send inquiry to CMR Box 743.

Phenolic Resins for contact cement and inks. Alkyd resins for paints. Available in container load quantities from Venezuela. Inquiries invited. Contact Stephanie DeSessa American Petrochemical Corporation (212) 307-1895 Tlx 232995.

## CHEMICALS OFFERED/WANTED

Chem/Mart Corp. will buy all of your surplus or off spec chemicals, plastics, pharmaceuticals and resins. Current bargain offerings: 224 lbs. Potassium Nitrate; 100 lbs. Der 667 Resin, 40 dr. Ebonex 1-30; 194 lbs. Kraton D4141, Calcium Acetate, U.S.P. and Gafic Ace. Prompt efficient nationwide service. Chem/Mart Corporation, 640 N. LaSalle St. Chicago, IL 60610 (312) 787-8800.

## CHEMICALS WANTED

Active Buyer of surplus chemicals, pigments, dyes, resins, waxes, plastics etc. Call toll free 1-800-631-3337 or 617-829-6736. Door Polymer Corp. Chemical Div. 17 Industrial Drive, Hoiden, MA 01520.

All Surplus — Chemicals — Resins — Ole — Colors — Solvents — Plastics — Specialties — Intermediates — bought by: Rambach Chemical Co., Inc. 52 Vesey Street, P.O. Box 5187, Newark, NJ 07105. Phone: (201) 589-7774.

Cash For your surplus chemicals, resins, colors, pharmaceuticals, dyes, other raw materials, by products, wastes, reagents and off-spec materials. Morgan Chemicals Inc., 5501 Lee Street, Williamsport, PA 16792 (717) 632-4000; Telex 919133.

Realize Top Value from the sale of your surplus Chemicals. We buy surplus chemicals, plastics, resins, waxes, etc. Bonner Chemical Co., P.O. Box 434, Fair Lawn, NJ 07410. Phone: (201) 791-2448. Telex: 13-0434.

Resin Corp. will buy your surplus chemicals, resins and resin raw materials, prime or off-specification. Resin Corp. P.O. Box 63, 1540 W. Blanche St., Linden, NJ 07036 (201) 882-8787.

Surplus Chemicals: Wanted, high prices paid for surplus chemicals, resins, pharmaceuticals, colors, plasticizers, solvents, waxes, etc. Prompt and efficient service. Try us for better prices. ChemSales Inc., 107-27 180th Street, Jamaica, N.Y. 11433. (718) 658-0400-01.

Surplus Wanted: Chemicals, pharmaceuticals, dyes, solvents, pigments, waxes, other raw materials. Over 55 years service Chemical Service Div., P.O. Box 848, 97-05 Onghly St., Rockville Centre, NY 11571. (516) 536-5533.

We Buy Surplus chemicals, colors, resins, solvents, plasticizers by-products, etc. Over 50 years of service to industry. Eastern Color & Chemical Co., Inc. 65 Roosevelt Ave., Dept. C.P.O. Box 1029, Valley Stream, N.Y. 11582 (516) 791-4445.

Zinc Bearing by-products, sludges, scrap, will consider all zinc compounds, metallics, etc. Please reply with estimated quantity, typical analysis, and best price F.O.B. origin. Write CMR: 738.

## EQUIPMENT OFFERED

Available for removal costs 150 ton dry storage silo with stand drumming and bulk capabilities. Construction: Steel Height—approx. 75' w/stand. Inquire McKesson Chemical (201) 638-4660.

Diamanther has used process equipment for sale: Columns, Exchangers, Heaters, Reactors, Pressure Vessels, Tanks, etc. Midwest Steel Co., Inc. 9825 Moers Road Houston, Texas 77075. 713/991-7843.

Ribbon Blenders, 600 to 10 working capacity, Strong Scott Jacketed Covers, Stainless 16' Jacketed, Several 125 cu. ft. Units Also Crushers, Grinding Mills, Screens, Dust Collectors. (2) Bobcat Skid Steer Loaders. #901-872-2295.

## FACILITIES OFFERED

For Lease Liquid Mixing Plant-Baltimore, Md. Approx. 70,000 sq. ft. facility being offered for lease to a complete Plant Ink, Coatings or Chemical Processing Plant. Includes Tank Farm and all equipment needed for total production plant is operational and ready for production. Office and Lab area Approx. 7,000 sq. ft. Inquire: Farbot Company, 8200 Fischer Rd., Baltimore, MD 21222, 301-477-6200.

## SERVICES OFFERED

Reconditioned Drums, cut packaging costs. High grade reconditioned steel drums to meet all DOT specs. 15 gallon—55 gallon. Linings our specialty. Truck load discounts. Used drums removed. Call Drum Service N.Y. 718/494-0255, outside N.Y. 1-800/828-9813.

Well-established importer and distributor of ingredients for pharmaceutical, food, beverage, health food, pet food and cosmetic industries as well as industrial chemicals and R&D chemicals with nationwide sales organization interested in additional distributorships for U.S. and foreign manufacturers. Reply to Box CMR-738.

## Petro Lewis Acquisition Set

Freeport McMoran Inc. has agreed to acquire Petro-Lewis Corporation under a bankruptcy law reorganization in the event that the ongoing tender offer by Freeport-McMoran for Petro-Lewis is unsuccessful.

The Freeport tender offer for Petro-Lewis and American Royalty Company, an affiliate, has fallen short of its original goals because certain holders of a minority of the company's bonds have declined to tender them.

The agreement on the bankruptcy law proceeding was reached by FPCO Inc., a corporation formed by Freeport and Kidder Peabody & Co. to undertake the tender offer.

The agreed-upon merger under the bankruptcy proceeding would be at a price identical to that of the tender offer.

James R. Moffett, chairman of Freeport-McMoran, a diversified producer of sulfur and metals based in New Orleans, La., said that if the plan is confirmed by a definitive agreement, which was expected to be signed on Friday, Freeport would buy common and preferred stock of Denver, Colo.-based Petro-Lewis and American Royalty that has already been tendered.

These tenders are sufficient for Freeport to gain control of Petro-Lewis, an oil and gas partnership, Mr. Moffett said.

4' x 40' Bartlett-Snow Rotary Kiln  
3' x 20' Bartlett-Snow Rotary Kiln  
3' x 20' Bartlett-Snow Rotary Dryer  
M-400 (16") Bird Pusher Centrifuge, 316 S/S (2)  
18" Bird Horizontal Screen Bowl Centrifuge, 316 S/S  
12' x 15' Jeffrey Fluid Bed Dryer, S/S  
60" Wide Proctor & Schwartz Belt Dryer  
Marley Cooling Tower  
Multi-Stage Evaporator System

## USED EQUIPMENT

9'6" x 250' Traylor Rotary Kilns (8)  
8'3" x 43' Traylor Rotary Coolers (6)  
6' x 40' Allis-Chalmers Rotary Coolers (6)  
8' x 16' Traylor Ball Mills, 450 H.P. (4)  
Belt Conveyor-up to 54" wide, up to 500' long  
10' x 24" Allis-Chalmers Jaw Crusher  
Suzo 322 Allis-Chalmers Hydro-Cone Crusher  
250 TPH Pennsylvania Hammermill (4)  
9' x 30' Chattanooga Paddle Mixer (2)  
8' x 12' Chattanooga Paddle Mixer (2)  
Misc. Pumps, Compressors, Screens, Tanks, Dust Collectors, Feeders and Conveyors.

SEE FULL PAGE AD NEXT WEEK

Federal Equipment Company  
8200 Bessemer Avenue  
Cleveland, Ohio 44127 • 216-271-3500

## Acquisition

We are interested in acquiring additional businesses.

### Our Criteria Are:

1. Chemical related — direct or indirect.
2. Profitability — present or future.
3. Personnel — compatible and experienced.

### Benefits:

1. We supply additional capital
2. Growth from complementary activities.
3. Increased profitability
4. Liquidity of equity

If interested in exploring further, please contact:

T.L. CuaJao  
Berger & Company  
1050 Sansome Street  
San Francisco, CA 94111

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# JOBS & PEOPLE JOBS & PEOPLE



Henry H. Pavony, who has been appointed controller for the chemicals group of Olin Corporation. Mr. Pavony joined Olin in 1975 as manager of general and plant accounting for the chemicals group and served most recently as manager of financial control and reporting.

## Hoffmann-La Roche Names Two V-P's

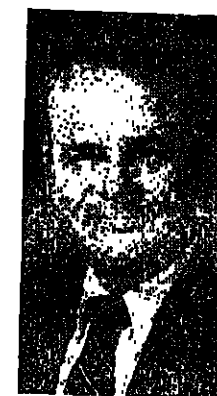
Hoffmann-La Roche, Inc. has named Hanspeter C. Muller vice-president of vitamins and fine chemicals and Robert C. Sunbury assistant vice-president and director of chemical operations.

Mr. Muller joined Hoffmann-La Roche in 1967 as a senior chemist in the technical development department and has since held positions in the US, Puerto Rico and Australia.

Mr. Sunbury has been with Roche since 1961. Most recently vice-president and general manager of operations at the company's Belvidere plant, he will be director of operations at the headquarters in Nutley, N.J.



H. Muller

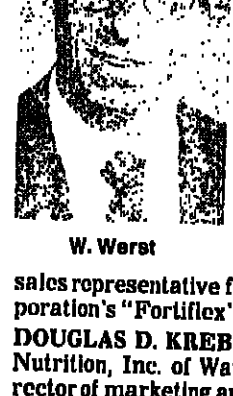


R. Sunbury

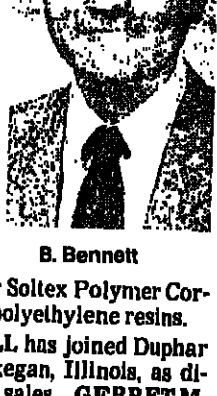
Chemical Company... JUAN G. ANDRADE has been named manager of business development for chemicals at Degussa Corporation... FRED YOUNG has been appointed

WILLIAM H. WERST JR. has been named business development manager for the concrete and asphalt additives business of the specialty chemicals department of Dow Chemical Company.

BRUCE A. BENNETT has been appointed director of quality management at Celanese



W. Werst



B. Bennett

sales representative for Sollex Polymer Corporation's "Fortiflex" polyethylene resins. DOUGLAS D. KREBILL has joined Duphar Nutrition, Inc. of Waukegan, Illinois, as director of marketing and sales. GERRETT M. PETERS JR. has been named market development manager for Colorim Systems, a



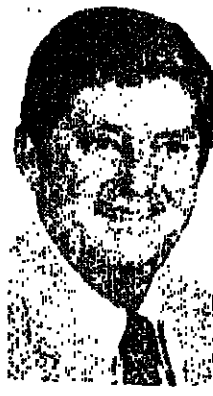
Herbert V. Pomerantz, who has been elected vice-president of polymers in the Chemicals Division of Unocal Corporation. Mr. Pomerantz will be responsible for the petrochemical group's polymer business unit. He joined Unocal in 1980 upon the acquisition of Celanese Specialties Company.

## Oxychem Appoints General Managers

Occidental Chemical Corporation has appointed Charles L. Mears vice-president and general manager of electrochemicals and Thomas A. Sugalski vice-president and general manager of detergents and specialty products.

The appointments are part of the recent consolidation of the former Diamond Shamrock Chemicals Company into Occidental Chemical Corporation's industrial and chemical operations.

Mr. Mears will be responsible for chlorine, caustic, dry caustic/KOH, solvents and liquid caustic. Mr. Sugalski will be responsible for the phosphate, silicate, chrome and specialty chemicals businesses.

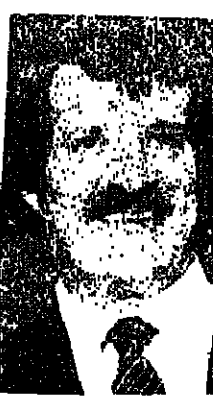


C. Mears



T. Sugalski

for the Fine Chemicals Division of EM Industries, Inc... E. CARLTON TOWNES has been elected vice-president and controller of A.H. Robins Company... J. PAUL ROSCOE has



D. Krebill



G. Peters

been named sales representative for Englehard Corporation's chemical catalysts and processes department. KEVIN D. CUCCI has been appointed technical marketing specialist in the adhesives department of National Starch & Chemical Corporation.

# BUSINESS BRIEFS BUSINESS BRIEFS

ALLIED CORPORATION says it has developed new, permanently conductive resins for use in blow molding and sheet thermoforming applications. The company claims the resins offer a unique combination of stiffness, high impact strength and electrical conductivity. The high-density polyethylene resins are sold under the "Paxon" name.

BRISTOL-MYERS COMPANY has introduced "VePesid" (etoposide) for use in combination chemotherapy as first-line treatment of a form of lung cancer known as small cell lung carcinoma. Bristol-Myers says the introduction marks the first time in over a decade that a chemotherapeutic agent for treatment of this form of lung cancer has been made available for this indicated use.

GOODYEAR'S CHEMICAL DIVISION has introduced "Wigstay K", an easily emulsifiable liquid polymer stabilizer with the capa-

bility of greatly increasing polymer oxidation protection, according to the company. Goodyear describes the product as a "proprietary complex mixture which affords exceptional oxidation resistance."

W.R. GRACE & CO. has appointed New England Resins & Pigment Corporation as distributor for Grace's "Daxad" polyelectrolyte dispersants. New England Resins will represent Grace in Massachusetts, Maine, New Hampshire, Vermont, Connecticut, Rhode Island and upstate New York. "Daxad" products are used as pigment dispersants in latex paint, as pitch and clay-dispersants in paper manufacture and coating, and to maintain ceramic clay suspensions.

MOBAY CORPORATION has introduced two diamine extenders for TDI prepolymers, which broaden the flexibility of available

technology for the production of cast polyurethane elastomers, according to the company. The chain extenders, "Baytec" 1804 and 110, were developed by Bayer AG, Mobay's parent company in West Germany.

OLIN CORPORATION has introduced a new surfactant that is low-foaming, stable at high temperatures and highly soluble in alkaline builders and bases, the company says. Called "Poly-Tergent" CS-1, the anionic surfactant meets USDA requirements and is specifically designed for use in liquid alkaline formulations, Olin says.

PERMEA INC., St. Louis, Mo., has commercialized advanced membrane systems that generate nitrogen on site for as little as a tenth the price of merchant nitrogen, according to the firm. The nitrogen systems, called "Prism Alpha", use hollow-fiber membranes

to separate air into a nitrogen stream and an oxygen-rich stream.

PFIZER INC.'s oil field products group has opened offices at 450 Gears Road in Houston, Tex. The new headquarters location initially will house the administrative and sales staff. The group specializes in xanthan biopolymer chemicals for enhanced oil recovery. Its fermentation-derived products are used as mobility control agents in micellar floods, polymer-thickened water floods and alkaline floods.

POLYSAR LIMITED says it will invest \$1.8 million as the first step in commercialization of "Tornac" hydrogenated butadiene-acrylonitrile rubbers. Polysar has selected a site in North America for the manufacture of the specialty elastomers, which until now have been produced in pilot plant quantities.



# CHEMICAL PROFILE CYCLOHEXANE

OCTOBER 20, 1986

SUPPLY	CAPACITY*
PRODUCER	
Champion, Corpus Christi, Tex.	22
Chevron, Port Arthur, Tex.	38
Phillips, Borger, Tex.	40
Phillips, Guayama, P.R.	89
Phillips, Sweeney, Tex.	21
Sun, Tulsa, Okla.	31
Texaco, Port Arthur, Tex.	60
Unocal, Beaumont, Tex.	30
Total	331

\*Millions of gallons per year. Champion will boost its nameplate to 28 million gallons next year by debottlenecking its Corpus Christi plant. Du Pont has 50-million gallons of capacity at Corpus Christi temporarily idled while the company secures a source of hydrogen for the plant. The facility, which was closed in July, is expected to reopen early next year. Phillips maintains a 90-million gallon swing facility at Sweeney which is currently idle, but is expected to reopen in November. The facility was operated for the entire first half of 1986. Sun added 4-million gallons of capacity through debottlenecking its Tulsa plant last year. Profile last published 12/5/86; this revision, 10/20/86.

**DEMAND**  
1985: 234 million gallons; 1986: 279 million gallons; 1990: 308 million gallons.

**GROWTH**  
Historical (1976-1985): minus 0.6 percent per year; future: 2½ percent per year through 1990.

**PRICE**  
Historical (1952-1986): High, \$1.85 per gallon, tanks, works; low, 20c. per gallon, same basis. Current: 99.25c.-\$1.0025 per gallon, bulk, barges, works.

**USES**  
Adipic acid for nylon 66, 57 percent; caprolactam for nylon 6, 29 percent; exports, 13 percent; other, 1 percent.

**STRENGTH**  
An upturn in housing starts this year, sparked by lower interest rates, has created a boom in the residential nylon carpeting market. This combined with inventory depletion programs last year, will push cyclohexane production up 19 percent this year. Nylon engineering resins are growing 8 percent annually. The shutdown of Gulf Canada's cyclo unit last year has created 17 million gallons of additional export demand this year.

**WEAKNESS**  
Collapsing raw material benzene prices, pulled down by the steep plunge in crude oil prices earlier this year, dragged cyclohexane prices down from \$1.30 per gallon in January to an 85 cent per gallon low in April.

**OUTLOOK**  
Cyclo demand has been tight since Du Pont closed its Corpus Christi plant in July and Phillips idled its 90-million gallon Sweeney swing plant. However, Sweeney will reopen next month, and Du Pont may be back early next year, and when both facilities are running, supply will be ample. There is talk the Gulf Canada facility (rated at 30-million gallons) will be reopened under new management, but the fate of the idled facility remains unclear. Demand for carpeting will track GNP, while resin use will grow strongly.

# CHEMICAL IMPORTS

Continued from Page 45

METHANOL, Grade 1 bks (8295404 lbs) (Bow Star) Bahrain, 9/22.  
METHYL CELLULOSE Mitras 98 dms (6561 lbs) (Ming Univese) Yokohama, 9/11.  
METHYL DIHYDROQUASMONATE Mitsui 17 dms (7571 lbs) (Ming Univese) Kobe, 9/11.  
METHYL ETHYL KETONE 1 bks (1101083 lbs) (Shoun Galaxy) L'Avera, 9/21.  
METHYL ETHYL KETOXIME John Weidner 76 dms (32759 lbs) (Hilde) Rotterdam, 9/21.  
Methyl 80 dms (8730 lbs) (Ming Univese) Kobe, 9/11.  
METHYL P-TOLUENE SULFONATE Aljmonoto 720 dms (78001 lbs) (Savannah) Santos, 9/13.  
MONOSODIUM GLUTAMATE A Inomoto 200 cin (7837 lbs) (Kiso Maru) Tokyo, 9/13.  
MLM Express 770 pkg (39188 lbs) (Ocean Legend) Busan, 9/11.  
Tel Wing Hong Imports 580 dms (83801 lbs) (Boogabilla) Keelung, 9/13.  
Von Schaven 800 bgs (40885 lbs) (American North Ca) Santos, 9/18.  
MORPHOLINE 1 bks (9932 lbs) (Stolt Integrity) Rotterdam, 9/11.  
PHENYL ETHYL ALCOHOL Polarome Mfg 80 dms (38977 lbs) (Ming Univese) Yokohama, 9/11.  
PHOSPHORIC ACID 1 bks (224783 lbs) (Stolt Integrity) Rotterdam, 9/11.  
POLYETHYLENE Surface Air Int'l 1 pk (1499 lbs) (Atlantic) Rotterdam, 9/21.  
POLYETHYLENE METHACRYLATE RESIN Chori America 182 bgs (10337 lbs) (Ming Univese) Kobe, 9/11.  
POLYPROPYLENE H C Paul Park 4 bgs (226 lbs) (Kiso Maru) Tokyo, 9/13.  
POLYETHYLENE DICHLORIDE Leschaco 1 tnk (45371 lbs) (Ever Growth) Rotterdam, 9/15.  
POLYVINYL ALCOHOL Marulha America 900 bgs (40556 lbs) (Regina Maersk) Kobe, 9/11.  
Pony Chemical 770 bgs (38847 lbs) (Ever Guide) Keelung, 9/18.  
POLYVINYL CHLORIDE Tarkett 759 bgs (43431 lbs) (Ever Growth) Hamburg, 9/15.  
POTASS HYDROXIDE NF Melinckrodt 336 dms (39185 lbs) (Atlantic Compass) Gothenburg, 9/15.  
POTASSIUM PERCHLORATE INCO 100 dms (2469 lbs) (30313 lbs) (Ever Growth) Hamburg, 9/15.  
POTASSIUM PERCHLORATE INCO 100 dms (2469 lbs) (41867 lbs) (Atlantic Compass) Gothenburg, 9/15.  
POTASSIUM PERMANGANATE American Int'l Chemical 158 dms (45413 lbs) (Sea Land Developer) Rotterdam, 9/18.  
POTASSIUM SULPHATE Sattva Chemicals 180 dms (41867 lbs) (Silurus) Bremen, 9/13.  
105 dms (26359 lbs) (Alexandra) Bremen, 9/20.  
PROCAINE PENICILLIN G American Cyanamid 200 dms (23810 lbs) (Kiso Maru) Nagoya, 9/13.  
PYRIDINE 4 ALDOXINE Max Gruenert 13 dms (1548 lbs) (Atlantis Service) Rotterdam, 9/15.  
PYRIDOXIDE HYDROCHLORIDE Gyms Laboratories 40 dms (2205 lbs) (Rijeka Express) Rijeka, 9/15.  
PYRIDOXINE Amerspharm 40 dms (2469 lbs) (Regina Maersk) Hong Kong, 9/11.  
QUEBRACH EXTRACT BLOCK Berkey Int'l 385 bgs (39685 lbs) (Savannah) Buenos Aires, 9/13.  
SABAFRAS OIL 46 dms (23433 lbs) (American North Ca) Panagusa, 9/18.  
SEBACIC ACID Hexagon Enterprises 720 bgs (39782 lbs) (Ming Univese) Hong Kong, 9/11.  
SESAME OIL House of Lawrence 850 cin (27227 lbs) (Yu Ho) Kobe, 9/18.  
SODIUM ACETATE 590 bgs (33169 lbs) (Yu Ho) Shanghai, 9/18.  
SODIUM ALGINATE F B Vandegrift 120 bgs (8911 lbs) (Silurus) L'Avera, 9/13.  
SODIUM BICARBONATE Vistula Products 2874 bgs (28298 lbs) (Ever Growth) Antwerp, 9/15.  
SODIUM BISULFITE TECHNICAL General Plastic & Chemical 350 bgs (39635 lbs) (Hilde) Rotterdam, 9/21.  
SODIUM BROMATE Ameribrom 540 dms (198871 lbs) (Argonaut) Hella, 9/18.  
THIOUREA Sakai Trade 775 pkg (39540 lbs) (Ocean Legend) Yokohama, 9/11.  
TITANIUM CHLORIDE ALIPHATIC HYDR Stauder Chemical 54 dms (15000 lbs) (Sea Land Leader) Algeiras, 9/17.  
Staufor Chemical 97 dms (28081 lbs) (Sea Land Leader) Algeiras, 9/17.  
TITANIUM DIBORIDE POWDER GTE Products 1 cin (124 lbs) (Atlantic Compass) Liverpool, 9/15.  
TITANIUM DIOXIDE B H Rootler 880 bgs (44137 lbs) (Sea Land Leader) Algeiras, 9/17.  
D N Lukens 640 bgs (33797 lbs) (Ever Shine) Leghorn, 9/21.  
D N Lukens Chemical 1760 bgs (88273 lbs) (Sea Land Leader) Algeiras, 9/17.  
Dorsett & Jackson 1760 bgs (88273 lbs) (Sea Land Leader) Algeiras, 9/17.  
N L Ind 800 bgs (185717 lbs) (American Aquatics) Rotterdam, 9/17.  
SCM 4400 bgs (227264 lbs) (Sea Land Developer) Rotterdam, 9/18.  
Superior Materials 640 bgs (33223 lbs) (Ever Shine) Leghorn, 9/21.  
Husky Raw Material 1520 bgs (79180 lbs) (Wladyslaw Sikorski) Bromnaryan, 9/16.  
N L Ind 4800 bgs (245330 lbs) (Sea Land Developer) Bremenhaven, 9/16.  
2700 bgs (139287 lbs) (Atlantic Song) Rotterdam, 9/21.  
N L Ind 4800 bgs (245343 lbs) (Wladyslaw Sikorski) Rotterdam, 9/18.  
TITANIUM DIOXIDE Blue Bel Chemical 2400 bgs (13227 lbs) (Sea Land Developer) Rotterdam, 9/18.  
N L Ind 8000 bgs (414908 lbs) (Ever Growth) Antwerp, 9/15.  
TOBIAS ACID POWDER Montedison 20 bgs (38850 lbs) (Finwhale) Marseille, 9/12.  
TOLUENE DISOXYANATE Klockner Chemical 78 dms (45741 lbs) (Copiapu) Valparaiso, 9/18.  
TRICHLOROACETYLE CHLORURE Ricon Poulenc 17 pkg (7407 lbs) (Independence) Marseille, 9/22.  
TRICHLORO ISOCYANURIC ACID 375 dms (118222 lbs) (Ming Univese) Kobe, 9/11.  
TRICHLOROETHYLENE ALKYLENE D6 1 bks (102880 lbs) (Shoun Vanguard) L'Avera, 9/20.  
TRIHYDROXYBENZOPHENONE Leyden Customs Exporters 73 dms (4828 lbs) (Ming Univese) Kobe, 9/11.  
TRIMETHYL CYCLOHEXYLMETHYL BUTE 78 dms (34484 lbs) (Atlantic Song) L'Avera, 9/21.  
TRIMETHYL PHENOL Stolt Tank Containers 1 tnk (35913 lbs) (Ming Univese) Kobe, 9/11.  
TRIPHENYL PHOSPHATE 1280 bgs (73546 lbs) (Atlantic Compass) Liverpool, 9/15.  
TRISILICATE PHARMA Robeco Chemicals 24 bgs (1338 lbs) (Atlantic Song) Rotterdam, 9/21.  
TRISODIUM CITRATE DIHYDRATE GRAY 800 bgs (45415 lbs) (Ever Growth) Antwerp, 9/15.  
TRISODIUM PHOSPHATE 700 bgs (39044 lbs) (American) Kentucky) Kobe, 9/15.  
TUNG OIL Almyr Oil 1 bks (661390 lbs) (Savannah) Buenos Aires, 9/13.  
Ind Oil Products 1 Lks (661390 lbs) (Savannah) Buenos Aires, 9/13.  
TURPENTINE GUM Reimur Mariens 1 cin (44710 lbs) (American North Ca) Panagusa, 9/18.  
**U-Z**  
ULTRAMARINE BLUE Elco Shpg 18 pl (41354 lbs) (Hilde) Rotterdam, 9/21.  
Elco Shpg 8 pl (25106 lbs) (Hilde) Rotterdam, 9/21.  
Elco Shpg 18 pl (41310 lbs) (Hilde) Rotterdam, 9/21.  
VGL 800 bgs (34430 lbs) (Atlantic Compass) Liverpool, 9/15.  
VANILLA BEANS CUTS Food Materials 42 cin (2390 lbs) (Kiso Maru) Tokyo, 9/13.  
VANILLIN 180 pkg (24048 lbs) (Ocean Legend) Kobe, 9/11.  
179 dms (24322 lbs) (Yu Ho) Dalian, 9/18.  
XYLENOL 2 tnk (85091 lbs) (Silurus) Rotterdam, 9/13.  
YTTRIUM OXIDE Minnutele 10 pkg (1087 lbs) (Ocean Legend) Kobe, 9/11.  
Oro & Chemical 35 pkg (4310 lbs) (Ocean Legend) Kobe, 9/11.  
ZIRCONIUM CARBONATE Magnesium Elektron 360 dms (61380 lbs) (Silurus) Falkstowo, 9/13.  
ZIRCONIUM OXIDE M E 180 dms (41857 lbs) (Alexandra) Falkstowo, 9/20.  
ZIRCONIUM SULPHATE POT Magnesium Elektron 150 dms (41857 lbs) (Atlantic Compass) Liverpool, 9/15.

# SPECIALTY CHEMICALS

**Amine Monomers**  
t-Butylaminoethyl Methacrylate  
Diethylaminoethyl Acrylate  
Dimethylaminoethyl Acrylate  
Diethylaminoethyl Methacrylate  
Dimethylaminoethyl Methacrylate

**Quaternary Monomers**  
Diethylaminoethyl Acrylate,  
Dimethyl Sulfate  
Diethylaminoethyl Acrylate,  
Methyl Chloride  
Dimethylaminoethyl Acrylate,  
Dimethyl Sulfate  
Dimethylaminoethyl Acrylate,  
Methyl Chloride  
Dimethylaminoethyl Methacrylate,  
Dimethyl Sulfate  
Dimethylaminoethyl Methacrylate,  
Methyl Chloride  
Dimethyl Diallyl Ammonium Chloride

**Cross Linking Monomers**  
Allyl Methacrylate  
Ethylene Glycol Dimethacrylate  
Diethylene Glycol Dimethacrylate

**Higher Alkyl Ester Monomers**  
n-Hexyl Acrylate  
Isodecyl Acrylate  
Lauryl Acrylate  
Phenoxy Ethyl Acrylate  
Cyclohexyl Methacrylate  
Isodecyl Methacrylate  
Lauryl Methacrylate  
Stearyl Methacrylate

**Ether Monomers**  
Methoxyethyl Acrylate  
Tetrahydrofurfuryl Acrylate  
Tetrahydrofurfuryl Methacrylate

**Glycidyl Ether Monomers**  
Allyl Glycidyl Ether  
Butyl Glycidyl Ether

**Polymer Dispersants/Flocculants**  
poly (Dimethyl Diallyl Ammonium Chlorides)  
Emulsion Polymers  
Mannich Reaction Products  
Mannich Reaction Quaternaries  
Polyacrylic Acids  
Sodium Polyacrylates  
Sodium Polycarboxylates  
Solution Polymers

**Other Specialties**  
Anisole  
Butylcyclohexyl Phthalate  
Butyl Lactate  
1,4-Dioxane  
4,6-Dinitro Ortho Cresol  
Ethyl Lactate  
Isoamyl Alcohol  
Naphthenic Acids  
Triethylene Glycol  
Tetraethylene Glycol

# MANUFACTURING SERVICES

**Unit Processes**  
Alkylation  
Chlorination  
Esterification  
Methylation  
Nitration  
Quaternization  
Sulfonation  
Transesterification

**Distillation**  
Batch  
Continuous  
Extractive  
Full Vacuum  
High Temperature  
Super Fractionation  
Tempered Water  
Wiped Film

**Other Services**  
Blending/Mixing  
Centrifuging  
Crystallization  
Filtration  
Pilot Plant  
Solids Handling  
Vacuum Drying

CPS offers a very broad range of specialty chemical processing and solvent refining services, including custom manufacturing of specialty monomers and polymers, at two large, modern, well equipped facilities located in Old Bridge, New Jersey and West Memphis, Arkansas.

Write for—PROCESSING/FACILITIES BULLETIN #683  
SPECIALTY CHEMICALS CATALOG #483

**CPS CHEMICAL COMPANY**  
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(201) 727-3100

W. MEMPHIS, AK  
(501) 735-8750



# MEETINGS CALENDAR

October 20, 1986

## THIS WEEK

AMERICAN MICROCHEMICAL SOCIETY, eastern analytical symposium, jointly with American Chemical Society and Society for Applied Spectroscopy, New York Hilton Hotel, New York, October 20-24.  
ASSOCIATION OF THE NON-WOVEN FABRICS INDUSTRY, eighth international conference and exposition, Georgia World Congress Center, Atlanta, Ga., October 21-23.  
CHEMICAL GROUP, NATIONAL ASSOCIATION OF PURCHASING MANAGEMENT, Fall Conference, Marriott Pavilion Hotel, St. Louis, Mo., October 21-23.  
CHEMICAL SPECIALTIES MANUFACTURERS ASSOCIATION, seminar on aerosol technology, Ramada Hotel O'Hare, Rosemont, Ill., October 27-29.  
COMMERCIAL DEVELOPMENT ASSOCIATION, impact of mergers and acquisitions on the future of technology-driven corporations, Hershey Hotel, Hershey, Pa., October 28-29.  
EUROPEAN PETROCHEMICAL ASSOCIATION, distribution meeting, Hotel Louisa, Monte Carlo, Monaco, October 19-22.

FIRE RETARDANT CHEMICALS ASSOCIATION, Fall conference on proper processing and selection of flame retardants, Kiawah Island, S.C., October 19-22.

## OCTOBER

AMERICAN ASSOCIATION OF TEXTILE CHEMISTS & COLORISTS, international conference and exposition, Westin Peachtree Plaza Hotel, Atlanta, Ga., October 28-31.

## NOVEMBER

AMERICAN PETROLEUM INSTITUTE, annual meeting, San Francisco, Calif., November 9-11.  
AMERICAN SOCIETY FOR TESTING AND MATERIALS, 7th Symposium on Pesticide Formulations and Application Systems, Phoenix Hilton, Phoenix, Ariz., November 5-6.  
CHEMICAL MARKETING RESEARCH ASSOCIATION, business school, personal computers in the workplace, Seaside Executive Conference Center, Princeton, N.J., November 5-7.

DRUG, CHEMICAL & ALLIED TRADES ASSOCIATION, Fall luncheon, Waldorf-Astoria Hotel, New York, November 19.

EUROPEAN PETROCHEMICAL ASSOCIATION, international transport seminar, Frankfurt Sheraton Hotel, Frankfurt, West Germany, November 20-21.

FERTILIZER ROUND TABLE, Sheraton Inner Harbor Hotel, Baltimore, Md., November 17-19.

FRAGRANCE MATERIALS ASSOCIATION OF THE UNITED STATES, 10th international congress of essential oils, fragrances and flavors, Omni Shoreham Hotel, headquarters hotel, Washington, D.C., November 18-20.

K-88, 10th international trade fair for plastics and rubber, Düsseldorf, West Germany, November 6-13.

LATIN AMERICAN PETROCHEMICAL ASSOCIATION, annual meeting, Rio Palace Hotel, Rio de Janeiro, Brazil, November 23-25.

NATIONAL PAINT & COATINGS ASSOCIATION, 89th annual meeting, Atlanta Hilton Hotel, Atlanta, Ga., November 3-5.

## LATER ON

CHEM SHOW, 42nd exposition of the chemical industries, Jacob K. Javits Convention Center, New York, New York, December 7-10.

CHEMICAL MARKETING RESEARCH ASSOCIATION, Houston Meeting: "The US Chemical Industry Responding to Change," Westin Galleria Hotel, Houston, Tex., February 4-5, 1987.

CHEMICAL SPECIALTIES MANUFACTURERS ASSOCIATION, 73rd annual meeting, Marriott's Harbor Beach Resort, Fort Lauderdale, Fla., December 2-8.

NATIONAL ASSOCIATION OF CHEMICAL DISTRIBUTORS, 15th annual meeting, Ritz-Carlton Naples Hotel, Naples, Fla., December 2-8.

SOAP AND DETERGENT ASSOCIATION, 80th annual meeting and industry convention, Boca Raton Hotel and Club, Boca Raton, Fla., January 29-February 1, 1987.

THE FERTILIZER INSTITUTE, 1987 Annual Meeting, not Orlando World Center, Orlando, Fla., February 1-3, 1987.